

WORLD Beneath Ice by Polton Cross

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BACK
COVER

AMAZING STORIES

ARTHUR R. TOFTE'S

**Warriors
of Mars**

AMAZING STORIES

VOLUME 13
NUMBER 1
AUGUST
1959

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Great Stories by
**ROBERT BLOCH
HARL VINCENT
DON WILCOX
ED EARL REPP**



LISTERINE ENDS HUSBAND'S DANDRUFF IN 3 WEEKS!



Child's case cleared up within 10 days

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Well, here, at last, is positive hope of real relief. A method which has been *proved* in laboratory and clinic. A delightful, invigorating treatment which has brought complete, lasting relief to countless men and women—Listerine Antiseptic and massage.

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improvement in, the symptoms within a month. Now, from all over America come letters from men and women telling us of relief they have received from Listerine Antiseptic.

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MEN: Douse Listerine Antiseptic on the scalp at least once a day. **WOMEN:** Part the hair at various places, and apply Listerine Antiseptic right along the part with a medicine dropper, to avoid wetting the hair excessively.

Always follow with vigorous and persistent massage with fingers or a good hair brush. But don't expect overnight results, because germ conditions can not be cleared up that fast.

Genuine Listerine Antiseptic is guaranteed not to bleach the hair or affect texture.

LISTERINE THE PROVED TREATMENT FOR DANDRUFF

**AUGUST
1939**

**VOLUME 13
NUMBER 8**

AMAZING STORIES

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STORIES
AUGUST, 1939

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Volume XIII
Number 8

Mr. Mattingly & Mr. Moore find folks appreciate good whiskey!

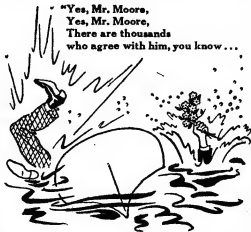
"Oh, Mr. Mattingly,
Oh, Mr. Mattingly,
I was stopped upon the highway
by a stranger



"Who said: 'Sir, my name is legion—
One of many in this region
Who will stick to M & M,
and never change, sir!'"



"Yes, Mr. Moore,
Yes, Mr. Moore,
There are thousands
who agree with him, you know ...



"They like the way we slow-distill ...
(We always have, and always will!)
And they like its mellow flavor ...
and its price so really low!"



THE fame and popularity of
Mattingly & Moore are due to
its grand, old-fashioned flavor!

You see, M & M is **ALL** whiskey
... every drop *slow-distilled*.
More, M & M is a *blend of straight
whiskies* ... the kind of whiskey
we think is best of all.

Ask for M & M, *today*...at your
favorite bar or package store.
Your first taste will show you
why M & M has been famous
down in Kentucky for more than
60 years ... why it is even *more
famous today!* And remember ...
the price is *amazingly low!*

Mattingly & Moore

Long on Quality—Short on Price!

*A blend of straight whiskies—90 proof. Every drop is whiskey.
Frankfort Distilleries, Incorporated, Louisville & Baltimore.*

The OBSERVATORY

by THE Editor

WITH his story in this issue, Arthur R. Tofte turns to satire. "Warriors of Mars" is greatly reminiscent of "Idiot's Delight" in its delicate digs at war and its causes and its absolute silliness. Mr. Tofte has taken the planet famed in legend and mythology as the world of war, the abode of Mars, the god of war, and woven an entrancing story around a subject of high interest at the present time. Not since Stanton A. Coblenz gave us his excellent satirical pieces have we presented anything of this nature, and we are sure you will welcome the return of a very popular type of science fiction.

WHEN we presented Robert Bloch's "Strange Flight of Richard Clayton" we expected a definite reaction on the part of the readers, but never the flood of commendation we received in praise of the work of this individualistic writer. And so, with this in mind, we are heeding the commanding voice of the oracle and bringing still another of this type of story, by the same author. "The Man Who Walked Through Mirrors" ought to give you a thrill, and at the same time, your editor takes a neat little kick in the pants from the first science fiction writer who has ever dared to aim an indiscreet toe in the general direction of editorial dignity.

IN our recent poll, it became evident that the following authors were most in demand by our readers: Eando Binder, Thornton Ayre, E. E. Smith, Ed Earl Repp, Stanley G. Weinbaum, Frederic Arnold Kummer, Jr., Stanton A. Coblenz, David H. Keller, Jack Williamson, and A.

Merritt. This list is extremely interesting. First, Weinbaum, although dead nearly four years, takes fifth place in a poll which questions the readers as to the writer they would like to see in the future. It also indicates that Binder and Ayre are one-two in popularity today. And further, that Smith and Merritt, two old masters, retain a grip on science fiction's "big ten."

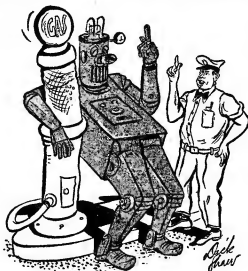
A QUESTION which comes up often, and is a popular belief, is that ships do not sink all the way to the bottom of the ocean. Scientifically, this is a complete fallacy, and has been proven by

what is known as "Buchanan's experiment." J. Y. Buchanan, physicist, in 1873 took a glass tube sealed at both ends, wrapped it in a cloth, and enclosed it in a cylindrical copper case with the ends pierced with holes to let the water in. The case was sent down to a depth of 3,000 fathoms (18,000 feet) and then pulled up.

The copper case looked as if it had been struck with a hammer at the portion occupied inside by the sealed glass tube. And as for the tube—it was represented inside the cloth by what looked like snow—a fine powder!

The tube, while sinking, had held out long against the pressure, but this at last had become too great for the glass to sustain, and the tube had suddenly given way, being crushed by the violence of the action to a fine powder. The collapse had been so rapid and complete that the water had not had time to rush in through the holes at each end of the copper tube, and thus fill the empty space caused

(Continued on page 73)



Now listen here, I'll give you all the oil you want, but no more anti-freeze!

WARRIORS *of* MARS

By
**ARTHUR
TOFTE**

Ansel Sellery was a mild scientist, then suddenly he became a fighting fiend. But only loyal Tolobo knew how it affected the fate of a world



Sellery stood rooted to the spot, his eyes fixed on the woman stepping from the ranks of the soldiery, the most perfect woman he'd ever seen!



CHAPTER I Tolobo's Fear

TEN thousand feet up, and we are falling as easy as a parachute," said Ansel Sellery as he turned and smiled broadly at Tolobo, his companion. The scientist's lean, weather-beaten face showed the joy he felt. At last, man had beaten space, and he, Ansel Sellery, was that man.

Tolobo's black eyes flashed with a deep fear and his ebony skin glistened with sweat though it was very cold in the space ship.

"I do not like this Mars," Tolobo

said simply. "We should go back . . . not land. It is bad here. I feel it."

"Yes, yes, Tolobo, I know how you feel," Sellery smiled wryly. "I feel kind of queer myself. Think of it—in a few minutes more, two men from Earth will step out on the soil of Mars!"

"I do not like it," Tolobo muttered.

The young scientist looked sharply at his companion and friend.

"You're not going to lose your nerve now, are you?" he asked. "We've been through too much together to lose courage at this stage of the game."

Then Sellery laughed.

"Remember that day I first saw you—you, in your fine feathers as chief of your people on the Congo! And how surprised I was when you spoke to me in English . . . said you had been to Oxford! And later that day when we attacked your enemy—that other tribe up the river—you weren't afraid then."

"I'm not afraid," Tolobo replied. Then he shook his black head. "I feel it is bad here on this place . . . bad like a lion carcass full of maggots. I can smell it."

"Nonsense," cried Sellery. But nevertheless he took another look at the huge black man who had been his companion for years on scientific adventures that had taken them all over Earth and now to Mars.

"We're going to land any moment now," Sellery said. "Be ready with the space suits. Too bad this crate hasn't windows in it so we can see where we are."

A moment later, the space ship, its forward jets holding it in almost perfect suspension, settled lazily to an even keel.

Ansel Sellery let out a whoop of triumph and at once clambered into the space suit Tolobo held for him. The black man's eyes were pin points of fear, but his hands were as steady as ever.

"Take a frequency gun* if you think we may need it," Sellery said as he headed toward the air lock chamber.

Quickly the scientist turned the series of wheels that opened the air lock. The two men stepped in. Another series of wheels were turned and the small circular door in the outer shell opened. Sellery clambered out

first and stood erect. Tolobo followed.

Side by side, the two men in their clumsy space suits stood and looked out over the desolate white plain that surrounded them. As far as they could see, nothing moved, nothing broke the monotonous levelness of the scene. Overhead a shining, colorless sky was cloudless. Underneath their feet the whiteness seemed like a layer of thin snow, or more like a heavy frost.

The scientist moved one foot across the ground and saw that a yellow-gray moss stuck to his foot. Scraping the frost away from a larger patch, he saw that the moss was quite heavy and thick and was fully an inch through to the yellow sandy soil below.

Despite the heavy suits they were wearing, there was a certain buoyant lightness to their stride as they walked around the space ship to look at what lay in the other direction.

Just as they reached the tail of the ship, and were about to step around it, Tolobo suddenly seized Sellery's arm and pulled him back.

"Something very bad on other side," Tolobo said through the two-way speaking device they had in their helmets.

But Sellery was not to be stopped now. With a wrench of his arm, he threw himself bodily ahead, the force of his earth-muscles sending him clear beyond the end of the space ship.

And in the instant that he looked up, his blood froze in horror!

There—standing immobile a few score yards away like an army awaiting the sound of a trumpet to charge, were thousands and thousands of bronze-colored Martian warriors.

EIGHT and nine foot giants they were, with long legs and comparatively small torsos from which two long arms extended. A third, much

* The frequency gun operates on the principle of extremely rapid vibrations produced by two magnetic discs. The result of a beam of vibration at 800,000 per second is similar to great heat—whatever is in its path is burned without smoke or a great deal of ash.—Ed.

shorter arm stuck out from the middle of the chest, and was obviously used for holding the shields the men carried before them. In their two side hands they carried twin swords—almost as long as the men themselves.

Sellery gulped at the sight. Then he raised his right arm in the universal gesture of friendliness. Still no response and no motion from the warriors standing silently before him.

"Let us get back in the space ship," Tolobo pleaded. "These Martians mean to kill us."

"How do you know?" Sellery asked unwilling to retreat.

"I know," Tolobo said. "I feel. I can feel their thoughts. They mean to kill us."

Sellery looked at his friend. Perhaps he did know. Time and again, in diverse adventures, Tolobo's intuition, or what he called his "feeling," had saved them from disaster. Tolobo had often proved to him that he could get telepathic messages over great distances. Perhaps these Martians did mean to kill them. But why did they stand there so quietly?

Then he noticed them begin to shift nervously from foot to foot. He saw some of them look backwards. Their expressions, which were human-like in features, began to take on a most malevolent look. The slit eyes narrowed still more. The wide, down-curving mouths became grimaces of hate. The long full noses, almost too big for their faces, twitched convulsively. And the twin swords of the men in front began to move restlessly in their hands.

Suddenly the restlessness stopped, and a rift was made in the army. Straight as a highway, a path was opened, and down this path came quickly one being. The warriors all turned and saluted by bowing as the figure passed along the clearing.

Tolobo seized Sellery by the arm and cried desperately.

"Come quickly before it is too late! Do not wait!"

But the scientist stood rooted to the spot. For he could see the being coming closer and closer. His eyes were on it. He could not leave.

Then—the creature was there, stepping lightly from between the ranks of the soldiery. And Sellery stared—

For never in all his life had he seen such a perfect feminine being. Here, before him, was the ultimate woman!

Tall she was—taller by half a head than Sellery himself. Her long legs and short body were covered by a thin gossamer of revealing metallic cloth. The features of face and body that on the soldiers looked gross and horrible, on her looked chiseled and fine. The bronze of her skin was more copper colored, softer. Her shimmering hair hung to her waist like a great cape of gold. Not earthly, as a human woman of Earth would be, this creature magically overpowered his senses with her utter beauty, her feminine magnetism.

For a long moment she looked at the two strangers. Then, without a movement from her, two of the warriors stepped from the ranks and advanced toward the Earthmen, their twin swords swinging in long, curving arcs.

"She told those two soldiers to kill us," Tolobo cried desperately to Sellery as he attempted again to pull the scientist back to the space ship. He pleaded—

"I heard her call them her Trologs. I can read their thoughts, and they think only of fighting and of hate," the black man was saying. "In another minute it will be too late. These Trologs are not humans . . . they are fiends!"

Slowly Sellery nodded, the smile never leaving his face. Then he

reached for the frequency gun in Tolobo's hands.

CHAPTER II

The Canal City

THE two Martian warriors advanced, swinging their seven-foot swords in great circles about them. When they were still some twenty feet away, Sellery lifted the gun and gave them a light blast. The soldiers halted, the fighting look on their brutish faces changing to amazed surprise. Then they sank to the ground, their long swords falling beside them. The men writhed in agony for a moment or two and then were still.

Without hesitation, two more soldiers stepped from the ranks and came toward the two Earthmen. Again Sellery gave them light blasts that sent them to the ground helpless, but did not burn them to cinders as he could have done.

Sellery looked at the woman. The expression on her beautiful face had not changed in the slightest. He was almost afraid to gaze at her, her beauty was so intensely penetrating to his senses.

Through their helmet communication system, Tolobo again was urging him to return to the ship.

"I beg you," he cried, "while there is still a chance, let us go."

Sellery's eyes never left those of the Martian woman.

"Tell her with your telepathy, if you can," the scientist instructed his black companion, "that we are from the planet Earth, that we wish to be friends."

Tolobo shrugged his shoulders in resigned defeat and turned to face the woman of Mars. For a few minutes he stood motionless, his black eyes fixed on her. Then he turned to Sellery.

"I think she understands me. When I think in thoughts instead of words, I am sure she knows what I mean. And I know what she means."

"What is she thinking?" Sellery asked.

"She wants us to follow her!" Tolobo replied sadly, knowing that was exactly what the scientist wanted to do.

At these words as though realizing fully what had been said between the two Earthmen, the Martian woman turned and went back along the open path among the Trolog soldiery. The path remained open.

"I am going to follow her," Sellery said, and looked at his black friend.

"I go where you go," was the other's reply.

Down the open rift between the soldiers they walked, their buoyancy letting them take strides six and eight feet long. Behind them the Trologs closed up the path.

For nearly an hour the two Earthmen strode along behind the Martian woman. Then suddenly she disappeared.

When they came to the end of the path they saw before them a river of blue water. Straight as a string it stretched in each direction, and about two miles across. But at their feet was a cave-like opening. Soldiers stood about the opening, and it was obvious that it was meant for them to enter.

Reaching into his kit bag for the small, high-powered flashlight he carried, Sellery motioned for Tolobo to come with him. Both noticed with some surprise that none of the Trologs followed them into the opening.

For another half-hour, the Earthman followed the course of the tunnel as it went steadily and unswerving downward at about a fifteen per cent grade. At last they saw a light ahead, and the tall, slender figure of the Martian

woman as she passed into the light.

At sight of her again, Sellery's heart beat faster. There were strange, subtle emotions stirred up in him, emotions that he could not analyze as he thought of her ravishing beauty. Already he realized he was under a spell that made escape seem unimportant.

Leaving the tunnel, they came out into a completely empty but well-lighted cavernous room, roughly about seventy or eighty feet square. Its only feature was a circular hole in the middle of the floor.

Sellery played his flashlight into the hole and saw that it was only about ten feet deep. Without even looking back at Tolobo to see if he were following, the scientist leaped lightly down.

At once arms seized him! In the clumsy space suit, he felt himself tightly pinioned without a chance to defend himself. And before he could warn Tolobo the other too was seized as soon as he dropped into the hole.

THE flashlight had fallen and gone out in the short struggle, leaving the Earthmen with nothing but their sense of feeling to tell what was happening. They felt themselves lifted and placed horizontal in a tube-like cylinder. Then, for some time, they felt only the sensation of moving and finally stopping.

When the tube was opened they were in another empty room, much like the one at the end of the tunnel they had first entered.

"Are you still hearing the message of the Martian woman?" Sellery asked Tolobo.

"Yes, she is just ahead. She tells us to walk through that doorway there and we will see her again."

Together the two men cautiously approached the door—a strange circular door which showed itself at least six feet thick when it opened quietly at

their approach. The two men walked through.

A strange sight met their startled eyes. After the grim empty harshness of the rooms they had seen previously, they were hardly prepared for the rich tapestries, gorgeous in flaming colors, that hung on the walls. The floor seemed to be of some patterned material as soft under their feet as sponge rubber. Light in various colors shone on the high-vaulted ceiling—though where the lights were located, they could not see.

And at the end of the seventy-foot room, the Martian woman lay waiting for them on a pile of long-haired white furs. She had changed to a robe of brilliant green, and if anything, she looked more overpowering in her loveliness than before.

She made no move to rise. She did not even look up at the two Earthmen as they approached. Instead, she began to stroke her long golden hair.

"Ask her who she is and where we are on the planet?" Sellery nudged his friend.

"She says she is The Woman, whatever she means by that," Tolobo replied after several minutes of silence. "And she says we are in a Canal city. She gives me some kind of a thought that I suppose is the name of the city, but I can't make it out. It is something like Seventy Three—at least that's the way it keeps coming to my mind. These people probably have a number of cities and give them numbers instead of names."

"Ask her if she will show us the city," suggested Sellery.

Tolobo turned, and hardly before his thought waves could be brought to bear on the question, the Martian woman leaped to her feet and led them to another circular door. Quickly they followed through after her.

The city that suddenly lay at their feet was clouded with a fine mist. But through the thin fog they could see rows of variously shaped buildings, yet orderly and frequently uniform in shape. They could see swiftly moving wingless cars flying through the air with astonishing speed, following the tenuous lines of silver-like wires stretching in a network in all directions. But strangest of all was the great circular sky dome that stretched overhead and as far toward the horizon as the eye could see through the mist.

The building from which they stared out over the fog-filled scene was by far the tallest in sight, and apparently was the hub of the city, for wide streets stretched out like spokes in all directions from it.

WHEN Sellery could catch his breath, he turned to Tolobo.

"Don't you see? These are ancient peoples. Older than Earthmen. Through all the ages, as Mars has cooled, they have built themselves these covered cities, as there are probably many more. It keeps out the cold, and keeps in the warmth. I wouldn't be surprised if there was enough air here too, for us. I'm going to take a try."

Quickly Sellery unscrewed his helmet and took it off. Into his lungs he drew great breaths of air. It was warm and as sweet as mountain air on Earth. He nodded to Tolobo, and a few minutes later, the two Earthmen were standing clear of their awkward space suits, dressed in the ordinary clothes of their native planet.

"Tell her that we would like to see the city at close range," Sellery said to Tolobo.

"She says first we eat," Tolobo replied, wearing a smile for the first time since they had landed.

Back in the Martian woman's room,

the two men sprawled out at her feet on the soft white furs. Almost immediately, several small, gnomelike creatures entered, bearing trays of strange-looking foods.

Hardly human in appearance, the beings stood no more than four feet high. Their heads and especially the flapping ears were far too big for their bodies. Their eyes were dim and lustreless, and their skin was a sallow yellow. They hunched over awkwardly as they ran in, their four long, thin arms holding the trays in front of them.

"She calls them Grappies," Tolobo whispered to Sellery.

Before the golden-haired woman, they placed one tray. Before Sellery they placed another just like it. But before Tolobo they placed a different type of tray and on it were foods that were not like that on the other two trays.

"Strange tasting," Sellery remarked as he bit into a large, luscious pear-like fruit, blue in color. "But very delicious—a Martian delight! How's that food of yours?"

Tolobo looked up and grinned. "Tastes like raw potato . . . but it fills the belly."

When they had finished, Sellery spoke to Tolobo. "Find out her name if you can."

"Her name is Azara. She told me that the first thing."

"And you didn't tell me?"

Sellery looked at his companion. "Still afraid of her?"

Tolobo looked down, unable to meet the scientist's gaze.

"Azara is a fiend," he said quietly. "She is but playing with us. Soon she will stop playing. And that will be our end."

The scientist looked at the beautiful girl who lay gracefully on the furs near him. He smiled. At once her face

lighted up in the most heart-stirring smile he had ever seen. It thrilled him as nothing in his life had ever thrilled him. He wanted to throw himself at her feet. It almost seemed like a madness had come over him as he looked at her. It was only Tolobo's tug at his arm that brought him back to sanity in time.

"Remember," Tolobo whispered, "you are Ansel Sellery, Earthman. This woman is not for you."

The scientist rubbed vigorous knuckles into his eyes trying to erase the unholy power the girl seemed to have over him. He jumped to his feet and strode to the door.

"Tell her we would like to see the city now—on close view."

A FEW minutes later the three were seated in one of the air cars, suspended from a silver-like wire by two more glistening threads. Without any apparent motive power and operated by a simple lever in the front, the car swished through the air, following the slender thread of wire through the mist.

When they stopped they were on a wide boulevard. Trologs, four and five abreast, walked along boisterously as young soldiers are accustomed to do on the boulevards of Earth. Sometimes, as any of the Grappies got in their way, one of the soldiers would whip out his sword and take a few whistling slashes with it under their legs.

For half a mile the three walked along the street. Always when the Trologs saw Azara they halted, bowed low to her. The dwarf-men merely cringed back out of sight when she passed.

Once they passed what appeared to be a factory. The place was filled with Grappies sitting at long benches, working at various jobs. Back of them, at regular intervals, stood Trologs armed with swords and long whips.

Another time they passed a building that was completely transparent. Soldiers were sleeping on piles of furs in the corners of the rooms. A few stood guard. In other rooms, gnome-men were preparing and cooking foods.

"Have you noticed something extremely strange?" Sellery asked his black friend.

The other nodded. "Yes . . . there are no women!"

"Exactly," the scientist agreed. "That must mean that Azara here is the only woman in all the city. If that is true, it means that Martians have developed like bees on Earth—with a single female as queen to rule and be mother for the whole nation! And they are probably spawned from eggs. No wonder she has such powerful feminine appeal! No wonder the soldiers all bow to her!"

The two Earthmen looked at each in wonder at this strange, almost unbelievable thought.

A few minutes later, they noticed that the soldiers they had passed were following them. Behind them were now thousands of the brutish-looking Martian warriors, quietly following at a respectful distance.

When the three came to a large circular building, Azara entered, the Earthmen following. It was a meeting place, they realized, with an arena surrounded by rows of seats.

The three walked across the arena to a central raised place, covered with piles of soft rugs and surrounded by a barricade of sharp pickets. The girl sank down on the furs; Sellery and Tolobo sat down a little warily beside her.

Soon the rows of seats were filled with Trologs and the doors at the two sides of the arena opened.

From one door six armed warriors marched out and faced six warriors from the other door. Then they turned

and bowed to Azara.

In the next instant, swords were out, and pairing off, the warriors began the most bloody duels the Earthmen had ever seen. As soon as one warrior fell, his body literally hacked to pieces by his opponent's twin swords, his victorious opponent would step back until another fighter was free to face him.

Finally only two fighters were left—splendid physical specimens. They were tall and as agile as antelope in their leaping to avoid blows or to deliver them. Their swords flashed through the air like streaks of lightning, keeping a horrible cadence of death.

There was a sudden hesitation in the smooth flow of movement of one of the warriors. The next instant his neck was pierced and he fell writhing in death agony.

Not a sound came from the onlookers or from Azara. She turned and looked at Sellery.

Tolobo let out a gasp of horror and seized the scientist's arm.

"I know now," he cried. "These men are fighting for the honor of being her mate! And now she wants you to go into the arena and fight the victorious Trolog warrior!"

Slowly, as though hardly knowing what he was doing, Sellery got to his feet, walked to the fence, let himself through the gate and faced the nine-foot Martian fighter.

CHAPTER III

The War Game

AS Ansel Sellery stepped out into the corpse strewn arena, there was something light-hearted and gay within him . . . a soaring of spirit as though fighting for one's life was a joy beyond any other pleasure.

He thought of a football game long

ago—the first one he had ever played. How scared he had been of the thousands of eyes looking down at him! How his knees had knocked together! How frightened he had been!

Strangely, it wasn't at all like that now. He wasn't frightened, and his knees didn't knock together. Even when he looked into the Martian's fighter's blazing eyes and knew that he had to battle for his life, he felt no fear.

His memory went back to that football game and how, frightened as he was, he had thrown a forward pass that had won the game.

The thought made him smile as it gave him an idea. It told him how to fight this warrior. In his belt was an automatic super-fire revolver . . . but he'd fight this warrior in a different way.

Still smiling, Sellery stopped beside one of the fallen fighters and picked up his two swords. Beautifully turned they were, and despite their length, better balanced than he had imagined.

Swinging them tentatively once around his head, he found them long and unwieldy, but just right for the way he wanted to use them. He headed toward his opponent.

A great hideous grin covered the brutish face of the Martian as he approached swinging his twin swords about him, and holding his small shield before him by his stubby third arm.

When the Martian was about three sword lengths away, Sellery suddenly lifted the sword in his left hand and holding it as he would a spear, threw it deliberately at the Trolog warrior's long legs. The shield came down to meet it. And in that same instant, Sellery threw the other sword with his right arm.

There was feeling of utter joy rose up in him as he saw the sword fly straight for the soldier's throat, through it, and almost a full length beyond.

He looked up at the Trologs on the

seats in the balcony. Their expressions had not changed. He turned and looked at Azara. She was smiling, and something told him that she was pleased.

Just then he heard a shout of warning. It was Tolobo, now on his feet and pointing at the open doorway at the end of the arena.

Through it was crawling the most loathsome beast that Sellery had ever seen or imagined. It was like a giant beetle with scores of long, tenuous octopus-like tentacles for legs, and a red shiny shell body that was fully thirty feet in length.

At the ends of the upper tentacles were huge nipper-like claws, and as the animal came across the arena, it stopped at the first of the fallen bodies. One tentacle turned the body over, another came sliding along beside it, two more ripped the metallic clothing from the man, and in an instant, the naked nine-foot giant warrior was snapped up and thrust into the huge undermaw of the beast.

Then it caught sight of Sellery standing alone in the middle of the arena. Sellery looked over at Azara and smiled. She smiled back.

FOR only a moment the huge creature hesitated. Then, with a hissing sound like a steam boiler gone mad, it charged. With incredible speed, on its several score of legs it raced toward Sellery.

Deliberately he drew his automatic, aimed, and fired. One shot after another, as fast as the mechanism could work, he pumped steel bullets into the charging beast. He knew he was hitting it every time . . . but on it came!

There was no chance now to run or dodge . . . it was suddenly on him! And just as he fell beneath the animal, he felt and saw a huge searing flame that barely missed him. And in that instant,

what had been a juggernaut of horror riding down on him was now a puff of smoke, a horrible stench in the air!

Sellery rubbed his eyes doubtfully, then looked over at the central section where Tolobo was carefully slipping the frequency gun back under his jacket. Just in time, Tolobo had blasted the beast.

Still smiling, though his legs felt a bit wobbly, Sellery went back toward Azara and Tolobo.

The woman greeted him, as was becoming her regular custom, with merely a smile. Tolobo's ebony skin shone with perspiration and his black eyes were wild with fear.

Sellery patted his friend on the back. "Just in time, as usual, Tolobo. You know, I enjoyed that. I wonder what's next on the program?"

Tolobo pointed toward Azara.

"She wants you for her mate," he said hoarsely and looked down as though ashamed to have said the words.

Sellery felt another surge of joy go through him — a strange, unnatural fever of desire. He turned toward her. . . .

But Azara had already left the center section and was walking across the arena. Sellery hurried after her, with Tolobo close by his heels.

Down the boulevards they went, and finally the three were in the car that was to take them to Azara's palace.

At the landing platform, Azara paused for a moment and looked at Tolobo.

The big black man flinched and then spoke to the scientist.

"She says you are to go with her, and I am to have separate quarters with the Grappies."

Sellery nodded.

"Do as she says, Tolobo. She is ruler here."

And as he turned and followed the

Martian woman into her palace.

IN the days that followed, Sellery spent most of the time at Azara's feet on the white furs, merely looking up into her face. As a scientist, this face of hers interested him strangely. And as a man, he felt that here was all the loveliness and beauty of all woman-kind embodied in one woman.

And when meal times came, he ate more of the strange blue Martian fruit. It was far more delicious than anything he had ever eaten on Earth.

After about two weeks, he felt queer things happening to him. For one thing, he began to understand what Azara was thinking, and he could transmit simple thoughts of his own to her. At first it was hard to believe, but a series of tests proved to him that telepathic communication had been definitely established between them.

He wondered if it were due to her tremendous powers of telepathy that she had managed to break through his Earth-bound five senses? Or perhaps the Martian air he breathed . . . or even this strange fruit he ate with such relish—perhaps one of these was the cause.

At any rate, their communication became more frequent and more complex. One day when he expressed, in thoughts, his desire to see more of the planet, Azara stood up from the furs, and led him out to the landing platform of her aerial car.

At once, in the highways that stretched out in every direction from the palace, soldiers began to gather as if by Azara's telepathic command. Soon there were thousands of them marching in close array toward the palace on each of the streets. Sellery marveled at the tremendous display of military man-power.

He noticed, as he got into Azara's

car, that it was equipped with considerable war trappings—armor for Azara, swords, and his own space suit which the Martians probably mistook as armor for him.

With Sellery in her car with her, Azara flew speedily over the heads of the Trolog soldiers through the mist-filled air. A half dozen miles or so from the palace they came to the edge of the city's dome. Quickly Azara leaped from the car, slipped into her armor and strode to a huge metal circular doorway. It opened at her approach.

Beyond the door was a large empty room, and through and beyond the room was another circular door, through which the two passed.

Sellery stood up and looked at the bright open sky. The sharp, dry, cold air struck his nostrils keenly, but it felt good to him after the humid heat under the city's dome. He followed Azara.

But after a couple hundred feet the scientist felt that something was wrong. It wasn't merely the cold, but his lungs! He wasn't getting enough air into them. And his heart was beating too fast and too hard.

Suddenly he realized—the air was too thin for him!

HIS legs were like lead; his head buzzed with a deafening roar. Just in time, he managed to get back to the circular door at the dome's edge. With his last bit of strength, he helped himself through.

Humid as the air was under the dome, it filled his lungs with renewed life. In a few minutes he felt strong enough to put on his space suit and go out into the open again.

Azara had stopped and was waiting for him—a tall, strange figure encased in shining armor like some female god out of ancient Earth's mythology.

Where were they going? Why was Azara dressed in armor? And where was her bodyguard of Trologs?

Sellery wondered these things as he walked beside Azara across the moss-covered ground from which the frost was melting under the mid-day sun.

And it gave him pleasure to be alone with Azara, to watch her striding along so majestically beside him, to feel her magnetic nearness. On Earth he had never particularly noticed women. But here, on Mars, Azara had already become the alpha and the omega of his life. And yet his reason couldn't tell him why.

"Our planet," Azara was telling him in thoughts, "was once ruled by the Grappies, a different race than we are. They are descended from the ancients who built the water canals, constructed the water-lifting pumps, erected the canal cities. But centuries ago they degenerated into physical weaklings, and it was inevitable that we Trologs conquer them completely."

"Do women rule all the dome cities?" the Earthman asked.

"One hundred and eighty-nine women rule Mars," Azara replied. "One for each of the one hundred and eighty-nine canal cities."

"And no central ruler over all?"

"Why should there be?" Azara answered. "I rule my city, and I wage war with any or all of the other one hundred and eighty-eight cities. What else is there to life?"

Sellery looked up at the small sun in the sky and thought of what Azara had just said. Here on Mars, values of life were different. The ancients had evidently provided easy means for living—cities that had warmth and air and food in abundance, and canals that brought water, and mechanisms that pumped the water across the flat surfaces of the planet. Life to the Trologs offered no

real struggle.

And . . . one woman to a city of several million men! He tried to imagine what it would be like on Earth if a similar condition existed. Even he, who had always been a misogynist, knew how important was the woman factor in every Earthman's life.

But on Mars—a man had neither a wife of his own, nor did he have to make a living. No wonder fighting was their only emotional outlet!

Mars—the red planet of war! Sellery remembered Tolobo's fear of the place, his foreboding long before they reached it. Tolobo had said he could feel the hate that lived and grew in the minds of these decadent Trolog Martians who knew no other interest.

But even as he thought all this with his Earthman's science-mind, Sellery felt an inner glow of war-like energy. All his life he had been a hater of war. But now in these past few weeks, he had felt a psychic change taking place in him. Was the fever of war actually in the air of Mars, that it should also become a part of him!

SELLERY'S thoughts were interrupted by Azara who had stopped, and was standing on the bank of a huge canal. Fully two miles across it was, and the water was as blue-black as the sky.

Off to the left, Sellery could see the coming of many warriors on the canal. They were standing on what appeared to be flat rafts, made of cask-like containers bound together and covered with thin, flat metal sheets.

From the right came another army in every way a duplicate of the one on the left, riding the same kind of bobbing rafts.

When the two armies were a few hundred yards apart, they stopped. Men jumped into the waist-deep water and

held the rafts steady. From the front ranks, about a thousand soldiers from each side advanced toward each other.

Sellery and Azara stood on the bank and watched the strange sight. Through the shallow water, the Trologs strode toward their opponents. Finally they met.

At once the soldiers paired off and fought individual duels. Twin swords flashed in the sunlight as the fighters came together. Men fell, their heads cut clear off, or pierced through the body. Blood ran red in the canal water. And when one man fell, his victorious opponent stepped back until an enemy was free to face him.

Up and down the ranks, the battle raged, with the men on the rafts immobile and silent. Yet Sellery sensed the joy they were feeling at sight of the bloody conflict. Azara, at his side, he knew, was exulting in the gruesome sight. And although he had lost the identity of the men in the fight, he too felt a strange sense of pleasure as he watched.

Fast the men were falling. Finally only a few score were left on each side from the thousand which had fought from each army. And at the end, six men from the army at the right stood waiting while the one remaining man from the army on the left fought them one by one.

A huge giant of a soldier, the solitary fighter was. It filled Sellery with an unholy joy to see him swing his long twin swords in the faces of his opponents, as one by one they came to face death at his hands.

To Sellery, standing on the bank, it was like some ghastly game. And somehow, the rules of the game insisted on individual combat. All six of the soldiers could have rushed the one man and slain him. But instead they fought him one by one, and died at his hands

. . . one by one.

When the huge warrior, blood-covered from head to waist, stood finally alone between the two armies, he strode through the water to the bank below Azara. He bowed low to her and turned back to his comrades. Already the forces of the right were moving away.

Azara turned to go back to the city. But as Sellery strode along with her, his thoughts became more and more confused.

If the people of Mars were so warlike, why didn't the two armies come together instead of just a small portion of them? Why didn't the armies of one city try to conquer and capture other cities? It seemed only logical.

Azara stopped and looked at him. Evidently she had been reading his thought, for into his mind came her thoughts.

"We fight because we like to fight," she said, "not because we want to win other cities. We have enough for ourselves. What would we do with these other cities?"

"You could become the head ruler over all the cities of Mars," Sellery replied, an unnatural lust for war running like a fire through his blood. "Your army would defeat all other armies. And all peoples on Mars would be your slaves—Trologs and Grappies alike. Great things you could do—build a greater city, cover the planet with communication systems, have war games and sports. You could be empress of Mars!"

"Yes, I could be," Azara replied with sudden eagerness as though the thought had never before occurred to her. "But how? My army is no different than all the others. Man for man, weapon for weapon, all one hundred and eighty-nine canal cities are identical."

Sellery's eyes glowed with enthusiasm as he turned to her. "I can show you

weapons that will kill your enemies by the thousands, by the millions. Guns . . . explosives . . . heat rays . . . gases—I know them all. Today we begin . . . and soon we shall conquer all of Mars!

But even as the thought raced through his mind, the last vestige of earthly conscience spoke to Ansel Sellery and tried to warn him against this fiendish plan.

"Soon we shall conquer all of Mars!" he muttered to himself, as he attempted to still the small, insistent voice within him.

CHAPTER IV

Azara—Empress of Mars!

"YOU know, Tolobo," Sellery was saying to his black friend one day not long afterward, "this place is getting into me somehow."

"Yes," the black man muttered. "Only I wonder if you know how much it's got into you already."

"What do you mean?"

Tolobo looked into the white scientist's face and narrowed his eyes.

"I mean that you aren't the same man who left Earth with me."

Sellery straightened up and his expression hardened. Then, almost immediately he relaxed and smiled.

"Good old Tolobo," he laughed, "still worrying about me. I'm having a grand time here. That fight on the canal . . . why, the old Romans never had sport like that. You should have seen it. And Azara . . . there's a woman for you! Earth has nothing like her. And yet she says there are one hundred and eighty-eight other women on Mars all just like her. I'd like to see them."

Tolobo pointed down at the city.

"And I don't like the way you are showing these people how to make those new super-fire guns. It's murder, that's what it is."

At these words, Sellery's face again hardened. It was obvious that he was holding back his anger.

"Listen, Tolobo," he said savagely, "if I want to show Azara how she can conquer all of Mars, that's my business. And if you are smart, you'll not interfere."

Tolobo shrugged his shoulders, but his eyes remained narrowed.

"Just think," Sellery continued. "In another couple of months, we'll have enough rifles and hand-grenades for Azara's entire army of two million. In addition, we'll have at least a hundred ray guns, a thousand heat guns, and three or four planes. I'm not so sure about the planes—even if they fly, I don't know how to teach these Martians how to fly them. I never was any good as a pilot. How about you, Tolobo, could you teach them?"

The black man shook his head slowly, "Tolobo will not interfere," he said, "but neither will Tolobo help. I shall wait. And one day you will change back to the great scientist I knew on Earth. I will be ready when you wish to go back."

"What if I never want to go back?" Sellery laughed mirthlessly.

"Tolobo will wait."

TWO months later, the fighting men of Azara's city gathered below her tower.

Silently, as they looked up at her, she gave them a message that explained her plans . . . to go forth and conquer all of Mars. She told them the new weapons they had been learning to use would help them win against all the warriors of the planet.

Then, as though it were the symbol of their crusade of terror and death, she raised up in one hand, one of the blue fruit which Sellery had called Martians' Delight. And as she did this, up came

the right arm of every soldier in the ranks below, and in their hands were more of the blue fruit. Then Azara ate her fruit. When she had finished, her two million Trolog soldiers ate theirs.

It was a strange ritual, and it disturbed Sellery's trained scientific mind. Once when he had first come to this place he had wondered about the warlike spirit of the people, and his own gradual change. Could it be possible that it really was this strange blue fruit that caused the trouble? To be true, the Grappies were not allowed to eat it; in fact, death was their punishment for eating the fruit. And Tolobo had not been allowed to eat it, and he had remained untouched by the spirit of war that pervaded the planet.

Before Sellery could ponder longer on the thought, Azara touched his arm.

He slipped into his space suit and followed the armored woman as she went down a long tunnel below her palace. As they descended some distance below the level of the city, Sellery saw that the ground was honeycombed with tunnels—well lighted and dripping with moisture. And everywhere were bushes loaded down with the blue Martian fruit.

As they went along one wide passage, Sellery could hear in the distance the familiar humming sound of electric dynamos. Finally they came to a low, flat room filled with strange mechanisms and machinery.

"What are these?" he asked Azara.

"Pumps," she responded telepathically. "We are now underneath the canal."

Soon they ascended and came up at a little wharf on the canal itself. The water flowed dark and mirky under the low tunnel roof, and Sellery wondered where the army was.

A huge raft came bobbing along, with a number of Trologs poling it into

position. Azara and Sellery got on. Later, as they left the tunnel at the edge of the city's dome, other rafts bobbed up to go along with them. Soon the whole army of two million men went moving down the canal, a silent, grim army, still equipped with their traditional swords, but also holding the strange new weapons that Sellery had designed for them and instructed them in their use.

Next day about noon they saw approaching them, also on rafts, the army from the canal city that was the first to them on the north. Sellery didn't like the looks of things very well. It just wasn't good strategy to meet an army of equal man-power in a water way that offered them so little chance to maneuver. Even with their superior weapons they were bound to lose a lot of men if the two forces got close together. Their new weapons were of greatest advantage if they could hold off the others from coming to grips with them.

Sellery turned to Azara.

"We should land our men, half on one side and half on the other side of the canal. Then, with the enemy in the middle we can cut them down."

Even as he expressed his thoughts, Azara gave out her command and the warriors of her vast army jumped into the shallow water and waded to the bank.

The enemy seemed confused at this departure from the usual formula. For some time they remained on their rafts in the canal and looked up at Azara, standing on the canal's edge. Then a thousand warriors leaped into the water and came toward the bank in obvious challenge to a like number of Azara's forces.

But Azara merely smiled and gave another telepathic signal. A line of rifles was raised and at her silent order,

a single volley sent most of the thousand thrashing and dying into the slow moving waters of the canal. The few remaining looked surprised, halted for a moment, but came bravely on. A second volley finished them.

Azara smiled again at Sellery.

"It was as you promised, Earthman," she said with her mind. "Now I shall order my men to kill the entire army of my neighbor to the north."

ANOTHER thousand men had leaped into the water and were advancing toward them. At Azara's command, the rifles again were raised, and again the men fell as before. And this time the men of Azara's army kept firing, raising the sights of their guns toward the main army of the enemy as it bobbed on its rafts.

Complete confusion reigned almost at once. With men falling all through the ranks, order soon was lost. Warriors jumped in the water and raced toward the banks, swinging their swords futilely. At several places along the canal they actually managed to gain a foothold. But even there they soon fell to the now superior numbers of Azara's army.

A few thousand warriors of the enemy were able to flee up the canal. But of the rest, almost all of the two million died by gunshot or sword or drowning. On Azara's side the losses were slight.

At the same time the horror of it filled Sellery, there was an equally powerful emotion of joy. And when Azara laid her hand on his arm, Sellery knew that joy filled her as well.

A few hours later when they entered the dome city to the north, Sellery and Azara marched at the head of her army. Not a soldier, not a Grappie could be seen. Straight to the central palace they marched. When they finally

stopped at the base of the palace tower, a woman stepped out and faced them alone. She wore armor like Azara, was as tall and as beautiful as she. In fact, as she strode bravely out, two long swords in her hands to face Azara and her army of two million, she was in every detail the exact counterpart of Azara.

"Her name is Azurka," the latter said to Sellery. "I told you once that all one hundred and eighty-nine rulers of Mars are alike. This woman I would like to fight with my swords, but your weapons, Earthman, are stronger."

Azara then turned to one of her soldiers and took the rifle from his hands. Aiming carefully she was just about to fire when Sellery pushed up the barrel of the gun and the shot went high.

There was a tense moment while Azara faced him, thoughts of anger raging through her mind.

"I have a better idea," Sellery said to her, breaking into her thoughts. "Why not keep this other woman as your slave . . . your personal slave, to wait on you as none of your men soldiers or Grappies have ever been able to do? Spare her life, and make good use of her."

Sellery could feel the various thoughts racing through Azara's mind at his suggestion—feminine satisfaction at humbling a foe, cautious fear that she was making a mistake, and womanly jealousy at his words in the other's behalf. Suddenly she turned and gave the rifle back to the soldier.

CHAPTER V

Disaster!

IT was a year later—a long Martian year, equal to almost two Earth years.

Azara sat on a regal throne in her palace, her one hundred and eighty-

eight identical hand maidens assembled in back of her. The war for conquest of Mars had been completely successful—each of the great canal cities had fallen beneath the force of Azara's men equipped with Earth-type weapons. It had been a slaughter of soldiers; millions upon millions had died in the war. And always as each city fell, the woman ruler had been taken by Azara into her group of handmaidens.

Sellery stood before Azara, his cheeks flushed, his eyes glowing with excitement. Beside him was Tolobo, his black face sullen and unfriendly.

"The war, the glorious war," Sellery was saying with his telepathic thoughts, "is over! All Mars is yours, Azara, to do with as you will. The soldiers of your enemies are dead. The rulers of all other canal cities are your handmaidens. You are Empress of Mars—ruler of all the canals, the deserts, the fields, all one hundred and eighty-nine cities."

"But what now?" she asked quietly, looking deep into his eyes. "There is no one left to fight, the whole of Mars is mine. We Trolog Martians are happy only when we are fighting or preparing to fight. Now there is no one left."

A frown came to Sellery's forehead. What Azara had said was true. And the thought that there was no one left to fight disturbed this strange, unnatural fever for combat in his own blood. He turned to Tolobo.

The black man's expression lighted up, and he said, "Perhaps we can go back now—to Earth?"

Sellery peered up at Azara, and saw a look of dismay cross her face.

"You cannot go," she said. "You are my mate. It is for this that we conquered Mars together."

Sellery shook his head, trying to clear up the confusion in his mind. Some power greater than himself was in con-

trol of his desires, he knew. And two things he wanted above all things: he wanted Azara as his mate, and he wanted war—eternal bloody war! It was a fever that fired him to action. There was no stopping the burning thoughts in his mind.

Later when the council meeting was over, Sellery walked alone back and forth across the floor of his room in the palace. He couldn't get out of his brain the conflict that raged there between his new love for Martian war and his old habits of Earth.

Suddenly he stopped. A thought had come to him—a Martian thought full of war cunning. Why stop with conquering Mars! Why not go on to Earth? With Azara beside him and all the resources of Mars at his command, there was no limit to the conquests he could make.

The glowing lust of battle was shining in his eyes as he left his room and headed for Azara's part of the palace. He found her with a half dozen travel-stained Trolog warriors standing in a line in front of her.

As he entered, Azara turned her eyes on him. The stream of her thoughts came rushing into his mind.

"These men have just come from the outer canal cities. They bring strange good news. The Grappies in those many cities have been eating the warrior fruit, and they have killed the guards I left in the cities. They are everywhere uniting against us."

Her expression was one of supreme joy as she sent these thoughts to him.

"And once again we will have war," she said. "Even war against Grappies is better than no war at all."

SELLERY turned to the six soldiers and immediately caught their thoughts. Something was wrong. They were frightened—they were not like the

brave warriors who had helped conquer Mars. Furthermore they bore unmistakable evidence of having been in a serious fight. Even as Sellery looked at them, one of the Trolog warriors slumped and almost fell.

In the news they brought they had tried to describe the huge army of Grappies already marching against them. Sellery forgot all about his idea to conquer Earth in listening to the strangely half-incoherent stories of the returned men. Azara, he could see, was paying little attention to what they said, her own mind filled with thoughts of fighting and war again.

When the six warriors were dismissed from Azara's presence, Sellery went with them. Walking down the long slanting corridor to the ground level, Sellery kept one of the Trologs in conversation.

"Tell me all you know about this new danger," he asked the man.

The Trolog looked back up the corridor to be sure Azara was not in sight.

"They come," he sent his thoughts in a jumbled disorder to the Earthman, "they come—a hundred million or more of them. The Grappies want back the land and cities which we Trologs took from them so many centuries ago.

"When we killed off the Trologs of the other canal cities we gave them



Azara's sword cut a way through the mob of Grappies

their chance. They have eaten of the fruit, and their workmen have copied the guns which we have. Now they are coming!

"I tried to tell our ruler," the man continued wildly, "but she wouldn't listen. Already it may be too late!"

"What do you mean?" Sellery demanded.

"Unless we stop them, the Grappies of this city will let in the huge horde from outside. Once inside they will kill every Trolog. We just barely escaped their advance armies."

Sellery thought fast. For the moment he was more Earthman than Martian. He tried to reason what was best to do. He turned to the soldier.

"Send one of your men to warn the warriors of the city. Then get twenty men and come to me. I'll wait for you in my apartment."

With these orders given, Sellery raced back to the upper levels of the palace. He got out his space suit, fastened his weapons to his belt, and waited impatiently for the return of the Trologs.

When they came he hurried them down rear corridors to the storage rooms on the lower levels. In one huge room were about fifty large box-like containers which he instructed the men to bring out to the transport car loading platform. In another room were several smaller boxes which he also had them carry with them.

Outside the palace, after several trips with the boxes, they loaded all into several cars. Sellery asked the men to come with him. In a few minutes they reached Sellery's space ship where it had been resting in its special niche in the great dome-framework at the edge of the city ever since it had been brought there shortly after the Earthman's coming.

With the help of the Trolog warriors,

Sellery quickly loaded the boxes into the cargo hold of the space ship. Leaving his own space suit inside the ship he went back to the transport car, and returned with the warriors to the palace. He told them to join their comrades in the coming battle.

The Earthman felt a strange sense of exhilaration as he hurried through the deserted palace grounds to the servants' section where Tolobo had been living. As he pushed open a door leading into the Grapple part of the palace he came suddenly to a scene that stopped him short.

TOLOBO was standing with his back to the wall, swinging a long Trolog sword as a dozen Grappies tried to rush him. At Tolobo's back was the entrance to the corridor leading to the upper levels.

With one blast of his frequency gun, Sellery swept the Grappies out of existence.

"There isn't much time," he shouted to his black friend. "Get your space suit—we're going back to Earth."

The black man let out a yell of joy and rolled his big, black eyes ecstatically.

"I knew you would go back some day," he cried and dashed into his room for the space suit which he swung easily over his muscular shoulders.

Up the long slanting ramp they ran to the level where Azara's rooms were located. The two Earthmen found her fastening on her armor, surrounded by the nearly two hundred other queens of Mars, all dressing for battle.

It was only by observing which one of the women seemed to be in command that Sellery could pick out Azara. He went to her side.

The Grappies are coming," he said with his thoughts.

"We will fight them and defeat

them," she replied calmly.

Sellery's heart went out to her—so beautiful, so eternally the perfect woman. And all these other women, identical in every respect. These women, like a company of Valkyrie, were going forth with two million warriors to battle a hundred million Grappies. It was magnificent!

But he knew the odds. And something of his old Earthman's caution stirred inside him as he looked at Azara and smiled.

"You are brave, my beautiful queen," he said, "but are you brave enough to go with me across the great cold void to the planet Earth?"

Sellery could see Tolobo scowl at the suggestion.

Azara's face, too, lost its smile. "And you want me to leave this battle? War is all we Trologs live for."

"But suppose the Grappies win! They will kill you, all of you, and then there will be no Trologs anywhere in all the wide universe."

"I stay to fight," Azara insisted.

"Come with me and you will see a greater fight than any that Mars has ever seen. Come with me and together we will conquer all of Earth!"

"But how?" Azara asked, her eyes wide with wonder.

Sellery smiled.

Twenty million Trolog eggs in the store rooms!" he laughed. "I have taken them to my space ship and stored them there. And enough fruit seed to feed them after reaching Earth. Twenty million warriors we will take with us to conquer Earth—no, not as grown soldiers, but as eggs to be incubated after we get there, and grown and developed into an army of fighting men such as Earth has never seen before. Then you will see a war in which blood will flow like rivers, and all of Earth will be ours!"

At these transmitted thoughts, Azara's eyes lighted up with realization and joy.

"I will go with you," she sent the thought to him.

Sellery turned to his black friend. "The day you have waited for is here, Tolobo. Now we go back to your beloved Earth."

TOLOBO scowled still deeper, but said nothing. In his black eyes shone an animal cunning. Try as he could, Sellery could not understand the black man's thoughts.

As the three marched to the car landing platform, with the handmaidens following, a strange sight burst on their gaze below. From all directions, Grappies were converging on the palace. Facing them were the Trolog warriors of Azara.

As those on the balcony looked down, the two forces came together. At first it seemed that the Grappies were stopped. But soon, by sheer force of numbers, they pushed forward again. Trolog warriors were swinging their long swords with deadly effect. Others were shooting with guns, pointblank at the oncoming Grappies. But as fast as the front ranks of Grappies fell, others rushed to take their places.

Sellery, Tolobo, and Azara leaped into one car, with the rest of the women following in other cars.

Setting the controls at top speed, Sellery flew straight for the edge of the city to where the space ship rested. Coming down beside it, his heart for the moment sank. For a cordon of several thousand Grappies surrounded the huge ship.

Pulling out his frequency gun, Sellery leaped from the car, with Tolobo beside him on one side and Azara on the other. Straight for the ship they headed, with Sellery blasting a path through the

Grappies. Then, suddenly the mechanism of the gun went dead!

A rushing horde of Grappies came toward them on their short legs, their gnome-like bodies half bent over, their hands grasping weapons of all kinds.

Sellery could hear Tolobo's hand revolver popping away on his left. He could see, out of the corner of his eye, Azara was a symphony of motion, with her twin swords helping to cut a way through the mob of Grappies.

The Earthman picked up one of the creatures bodily and threw him at his fellows. In another instant they would be smothered under the flood of little men. Then Sellery heard a strange whirring sound behind and around them.

It was the coming of the warrior handmaidens into the battle. And the whirring sound was the slash of their twin swords as they fought their way to the three.

Fighting, hacking every step of the way, they managed to reach the air lock of the space ship. Azara went in first, then Tolobo. The last Sellery saw as he clambered in, the thirty or so remaining queens of Mars, left from the one hundred and eighty-eight, were fighting in a circle about the air lock, their backs to him, battling to let Azara escape and preserve the race.

Then Sellery slammed shut the lock and hurried to the control room. With no windows anywhere to look out, the battle on Mars must forever be left unfinished for him. There was work to be done if they were to get away.

In the control room, he pressed a button, and even through the thick multiple shell of the space ship, he felt the shock of the explosion. He had blown

up a section of the dome covering the city, so they could get the ship into the open.

Then he called to Tolobo to tie Azara and himself down into acceleration hammocks. Fastening himself to the control seat, he pulled a row of levers and at once there was a series of blasts from the under jets. If the warrior queens still survived, he shuddered to think what the flame from the jets was doing to them now.

In the acceleration that followed, Sellery lost consciousness, as did the others. Hours later, he awoke to find himself tied into an acceleration hammock. Azara was in the next hammock to him.

"Tolobo," he called, "where are you?"

"Right here," the black man said as he came running up, all smiles. "And here's some good old fashioned vegetable soup for you—from Earth."

"Release me from these bonds at once," Sellery ordered.

"Not just yet," Tolobo smiled. "For a few weeks, as we go toward Earth you will eat only Earth food. And when you are no longer under the influence of that strange blue fruit of Mars, then I shall release you."

"And Azara?" Sellery asked.

"She is all right," his black friend replied. "She likes this Earth soup. When I told her it would make her lose her craving for battle and for war, she said she would die before she ate any. But when I told her it would make her think more of love, she tasted it. She says it is good."

"Did she say that?" Sellery asked quietly. "Perhaps you are right, Tolobo, my friend. You are always right."



RIDDLES OF SCIENCE

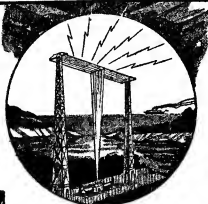
The Secret of the Stratosphere ..



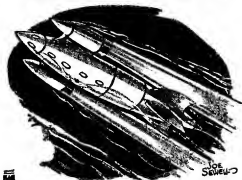
TESSEREINE DE BORT, FRENCH METEOROLOGIST, GOES THE HONOR OF THE OFFICIAL DISCOVERY OF THE STRATOSPHERE. IN 1899 HE SENT A-SOUNDING BALLOON UP INTO THIS AREA OF CONSTANT TEMPERATURE (about -60°F)



ON MAY 27, 1931, AUGUSTE PICCARD MADE HIS FAMOUS ASCENT TO A HEIGHT OF 9.81 MILES, AND BROUGHT TO THE WORLD'S ATTENTION THE AMAZING REGION OF FUTURE EXPLORATION, THE STRATOSPHERE.



THE MYSTERY OF REFLECTED WIRELESS WAVES LED TO THE DISCOVERY, BY HEAVISIDE, OF A LAYER OF INCREASING TEMPERATURE AT A HEIGHT OF 60 MILES. THIS WAS FOLLOWED BY APPLETON'S AMAZING DISCOVERY THAT AT A HEIGHT OF 150-200 MILES ANOTHER LAYER EXISTED, HAVING A TEMPERATURE OF 1000°C , HOT ENOUGH TO MELT BRASS!



UNTIL THESE DISCOVERIES ARE PROVEN FACT, BY EXPLORATION, STRATOSPHERE SHIPS MUST REMAIN ONLY BLUEPRINTS. CERTAINLY NO SHIP COULD TRAVERSE AN OCEAN OF HEAT THAT WOULD TURN STEEL RED HOT /

MAN has begun to eye the stratosphere with speculative gaze, anticipating the day when he will be forced to construct ships that will fly through this region of mystery. He must conquer it for military and economic purposes, and to provide the world's aerial highway for passenger transport of the future. He has ventured up into this region in balloons, in planes, and has sent up instruments in an effort to solve its mystery. Up to now, he has discovered little, except that it is the logical highway for rocket ships.

WORLD BENEATH ICE

FROM the distant reaches of space came a tiny planetoid, and the earth trembled. Then to Earth came an ice sheet of death

By POLTON CROSS

CHAPTER I

The Coming of Disaster

NEW YORK felt the initial tremor in the mid evening of January 6, 1990. It passed through the busy metropolis as a slight, creeping shudder: for a fraction of a second everything was a thirty-second of an inch out of true, then immediately righted itself again. Thousands failed to notice it, and those who did did not put it down to a temblor but to a physical disorder that had briefly thrown them out of key with their surroundings.

But the instruments at the Institute of Science were coldly impartial in their findings. There had definitely been an earth temblor across the whole American continent at 21 hours 14 minutes Eastern Standard Time—the period being registered from midnight to midnight. The curious thing was that the tremor was not one in the usually understood sense of the word, nor was there any traceable epicenter. Scientists looked at one another in baffled wonder, checked their seismographs again, then waited for reports to come in from their stations in various parts of the world.

An hour later they came through—and as they arrived it became perfectly obvious that not only America but all the world had experienced a temblor at

almost the same time. And again there was the absence of a recognizable epicenter, presumably because the occurrence had been simultaneously world wide.

To the scientists the matter was one of profound interest, but to the world in general it meant nothing. The temblor had caused but little harm anyhow. Hardly a brick had been dislodged. Broken crockery seemed to be the only mishap, and that was relegated to the mysterious regions of domesticity. . . . So the people of the world in general and America in particular went on their way undisturbed.

Then, a week afterwards, the temblor came again! This time it was more violent. Several poorly constructed products of cheap labor in New York fell down entirely. A vast apartment block in the process of construction buckled up in its entirety and killed two hundred workmen outright. In Britain and Europe, too, the effect had been unusually severe.

That started people noticing their newspapers and listening to their radio-television reports. With a typical sensationalism the papers carried a unanimous headline—

THE TEMBLOR STRIKES AGAIN!

Strange how editors and reporters got



Advancing toward them were several metal robots. What strange world had they blundered into?

into the habit of regarding the thing from a human aspect. They plugged it for all it was worth, traced vague histories of past earthquakes with a certain pitiful fervidness. Scientists stood up before telescreens and spoke in deep, learned voices on the hundred and one causes of an earthquake. . . . But it was increasingly plain that all of them were hedging, did not really know what they were grappling with.

And the one man who could have explained the thing from A to Z remained silent, determined to have every fact before he published his opinions to a much bewildered world.

THE one man was Dr. Royston Shaw, with enough degrees after his name to fill half a column of type in "Who's Who in Science." Coldly eschewing all the benefits scientific bodies would have thrust upon him, he had retired at 50 to study out certain angles in science that still baffled his relentlessly analytical mind.

With a fortune at his disposal, a quiet home just clear of the busy whirl and din of New York City, a daughter of 25 whose heart was also given over to things scientific, and an understanding wife whose only vice was the rearing of goldfish in numberless bowls, he had little to do but pursue his sole interest in life. And pursue he did, to the virtual exclusion of all else.

Ann Shaw was the first to notice her father's sudden increase in endeavor at the arrival of the first earth temblor—but she could get little out of him as he sat like a gnome before his desk in the laboratory, gold rimmed glasses perched on his beaky nose, one hand incessantly clawing at the skimpy gray hair falling over his high forehead. With his free hand he made innumerable notes and drawings on a thick pad: then he would vanish into his observatory for hours at

a stretch and come back to make more notes, or meditate.

Ann gave it up at last, she knew he would come out with the whole story when he was ready. Besides, there was nothing for her to do while he was in one of these moods; so, being a perfectly normal girl even if she was a brilliant scientist, Ann took herself off to the nearby city to catch up on some much needed shopping.

She was in the heart of the city when the third temblor came. In fact she was stepping out of a dress shop when a growling roar smote on her ears. The next moment her feet were shaken from under her and she went her length in the gutter on top of her parcels. For a few seconds the ground heaved horribly to the accompaniment of distant concussions and splintering glass. Then the world was still again.

Dazed, she started to get to her feet, found a strong hand on her arm assisting her. She glanced up in surprise to find a man of massive proportions in a big fawn overcoat and soft hat regarding her in concern.

"O.K.?" he asked, smiling, picking up her parcels.

"Yes—yes, thanks." She brushed the dirt from her clothes with an impatient hand. "I—I guess I made an exhibition of myself."

"So did the others," he said quietly, and nodded along the sidewalk to the men and women picking themselves up. Police cars were already screaming down the thoroughfare answering emergency calls. The dress shop window was smashed and mixed with costly gowns which had been slashed to ribbons.

Ann rearranged her parcels carefully, taking a sly look at her acquaintance as she did so. He was younger than she had thought—perhaps in the early thirties. Blond too—handsomely blond. Ripples of fair hair showed at the side

of his hat. His face was fresh complexioned, very strongly moulded, with a projecting chin, firm lips and straight nose. Even his eyes were arresting—of a bright blue usually associated with young children and china dolls.

Not that he was idle as he helped with the parcels. He had already taken account of Ann's trim, shapely figure, black hair, and level gray eyes.

"That's the third quake we've had now, isn't it?" Ann asked rather breathlessly, becoming aware of the mutual scrutiny when the parcels were no longer an excuse.

"Yeah. . . ." He still did not take his blue eyes off her. Then he suddenly grinned with the whitest of teeth. "I'm Radford Blake of the *Star*," he volunteered. "Hope you don't mind?"

"Oh! A reporter?" Ann stiffened visibly.

"Sure—and a good one too. Ask the *Star*. I rate by-lines in my write ups, and that's something. Besides— Hey, just a minute!" He streaked after the girl as she suddenly turned away. Catching up with her he clasped her arm. "Am I that bad?" he asked in reproach.

"I just don't like reporters, that's all," she answered sweetly. "Thank you for helping me—and now good by!"

AGAIN she turned away but by the time she had reached the subway entrance she was aware of his powerful, grinning face once more. He raised his hat politely and the blond hair came fully into evidence.

"Hallo there! Remember me?"

Ann stopped, her face set. "Now listen, Mr. Blake, you're getting to be a nuisance! I suppose it's the reporter in you that makes you behave like a bloodhound—but remember that picking a girl up after she's fallen down doesn't

give you the right to follow her around. Anyway what *do* you want?" she demanded.

"Your name, and the date and place of our next meeting."

"What!" Ann's gray eyes opened wide.

"Sure!" he smiled. "Oh, be yourself, won't you? This is 1990 and the age of self-expression. I think you're all right, and I'd like to know more about you. In return I promise you a full history of my life from the cradle upward."

"From the amoeba upward would be more apt!" she retorted.

He winced. "O.K.—you win. Well, where do we meet?"

For answer she brought her dainty heel down on his toe with savage vigor: it was the only alternative to a slap in the face she could think of. By the time he had finished hopping around amid the grinning people, the girl had vanished. In fact, she had already boarded the subway train for home and was sitting in a corner seat smiling to herself. It flattered the woman in her to have the blond giant's name and occupation while withholding her own.

She was still smiling when she returned into the house—then as her mother came fluttering round with allusions to an earth tremor she suddenly forgot all about Radford Blake and recalled her experience in the city. Immediately she headed for the laboratory and found her father pacing slowly up and down in his tattered smock, thrashing back his gray hair impatiently.

"Well, about time!" He wheeled round irritably as she came in. "I was wondering where you'd gotten to, Ann. Your mother tells me you've been up town. How much damage was there?"

"Why, not much. It was only a tremor, after all. A few windows broken and one or two people hurt. I was thrown in the gutter. Nothing else so

far as I could see at the time."

Shaw's brows came down over his cold eyes.

"Ann," he said slowly, "the next tremor will be the last. And it will bring about the complete end of civilization! It will not be just a shiver, but a gigantic quake which will destroy in a few seconds everything man has built up."

THE girl gave a faint, incredulous smile.

"Don't believe me, eh?" her father asked, jamming his hands in his smock pockets and staring at her. "I'm surprised at you, Ann, I thought I had developed the scientific streak in you. Leave disbelief for the masses: that's their job. All that I'm saying is true—unhappily. I've come to the end of my researches now, and I realize that at any moment the end may come. These recent tremors link up completely with the sudden distension of Jupiter's Red Spot."

Ann slowly sat down, frowning. "But, dad, how do—"

"I've been watching the planets for some time now," he interrupted. "First Uranus revealed an extensive white spot growing gradually larger: then Jupiter's Red Spot extended some thousands of miles beyond normal bounds—then we got temblors on earth here, each one more severe. Only one thing could cause the strange distensions on Uranus and Jupiter—namely, a tremendous gravitational field tugging from outer space, shifting the gummy half molten plasma of the Red Spot as a— a spoon would drag molasses. Understand?"

"Yes—yes, I think so. Go on."

"I explored space with my instruments." Shaw paced up and down now as he talked. "I couldn't find anything to account for a strong gravity field. Yet I knew it must be present *some-*

where. In the end I arrived at its position by mathematics."

He came to a stop, took a deep breath.

"Out in space, Ann, passing rapidly through our solar system, is a tiny piece of a white dwarf star—a black fragment, utterly invisible, detectable only by mathematics. Possibly it is a piece broken off a white dwarf in the far depths of space by some inconceivable disaster, and following a certain orbit it is passing through our part of the universe. I say it is tiny, but the packing of a white dwarf is something like two tons to the cubic inch. It has a density two thousand times greater than platinum. The substance is composed entirely of neutrons. There are no normal atoms at all—"

"In other words, the stuff is neutronium," Ann said quietly.

"Exactly—neutronium. Now, it is passing through our system. Its great gravity field is not strong enough to drag an entire planet out of its orbit: it cannot defeat the master field of the sun. But it does something else! Even as in the normal way the moon raises tides in the fluid oceans, so this neutronium chunk raises and shifts the plasma of the earth's surface, as a magnet would drag along steel filings. When it reaches its closest point, which may be any time now, all normal land surface will be shattered. Everything will collapse."

"But why, dad? Isn't that a bit sweeping?"

"Believe me, child, I wish I were wrong. But there it is, I'm not. In fact, the major earthquake would have come long ago were it not for the fact that the earth's surface is somewhat adhesive. Continents cling together by cohesion of molecules until at last the pull of the opposing gravity is too strong to be denied. Then rupture will come all at once. Three times so far the surface

of the world has slipped simultaneously. The next time will be the last. As you probably know, the earth's surface is not solid: that's the trouble. It floats, as though it were heated tar or treacle."

"Isn't that the Wegener Hypothesis?" Ann asked, thinking.

"Yes. Wegener perished long ago in Greenland trying to prove the hypothesis that we now accept as fact—namely, that all continents and islands are really hardened scum or pumice floating on the hot viscid stuff that makes up earth's interior. And continents not only float: they drift. . . .^{*} So when this strong gravitative field approached from outside the surface began to accelerate its rate of drift to the extent of finally ripping in pieces. That has yet to come. I am convinced nothing can stop it."

Shaw fell silent, pondering, his eyes on the floor. At length Ann looked up sharply.

"I presume nobody else knows about this chunk of neutronium?"

"Don't see how they can. It's invisible—and I don't know many who could compute the mathematics to find it as I have, even if they had the imagination to know what to look for in the first place."

THE girl got to her feet suddenly, took hold of her father's arm tightly.

^{*} The Wegener Hypothesis further assumes that the oceans are carried in heavy basins of basalt and that the continents are borne on wracks of granite. First glance at the map of the entire Atlantic reveals much in favor of this theory. Faced with those two coastlines it is not impossible to imagine that the West African coast and east South American coast once fitted up against each other. Turn the atlas further west. It is odd that both North and South America should have a rumple of mountains—Rockies and Andes—rucking up along their western sides, as though the plains to the east of them had "crept" as tarmac creeps to the curb on a heated road. The general tendency it seems is for these gigantic rock floes to drift in a westerly direction, which may mean that Antarctica was once in a tropic zone. From Gerald Heard's *Science & Life*.—Author.

"Dad, do you begin to realize what you've discovered?" she whispered. "Why—it means world catastrophe! And you just stand there and tell me! Everybody's got to know about it as quickly as possible. Preparations have got to be made for defense against the disaster. Underground refuges, perhaps."

"There isn't time," Shaw said moodily looking at her.

"There's got to be time! It's—unthinkable!" Ann swung round to the telephone and searched through the directory, finally dialled a number. Her father stood watching, meditating.

"Oh, is this the Star?" she asked at length. "Give me Radford Blake—and hurry!"

"Who's Blake?" Shaw asked suspiciously.

"Reporter I know. He'll start the ball rolling for the press, anyway: then we'll contact the radio stations— Oh, hello! Is that Mr. Blake? Remember the girl you picked up from the gutter?"

Shaw's eyes opened a little wider, but he said nothing, stood listening to his daughter's words.

" . . . of course not. This is business! Come right away to Dr. Shaw's home— East Dale, 79th Precinct. It's desperately important. Eh? No, I am *not* kidding. Fifteen minutes? O. K."

"Who exactly is this fellow?" Shaw demanded, as she put back the receiver.

"From now on he'll be your mouth-piece for the press. I know you don't like the general run of reporters, but Blake's different. He'll get everything fixed as it should be. Wait till you see him. . . ." Ann sighed a little. "You know, dad, I still can't half credit this thing. Are you dead certain that the earth is about to end?"

He nodded slowly. "Yes, my dear, I am. I've thought of many ways for the world to end, but never this one."

"This neutronium chunk—What will happen to it finally?"

"I'm not altogether sure, but so far as I can make out it will pass on its way through our solar system into the depths of space."

Ann shrugged, went slowly to the window. Night had fallen now and she gazed across the intervening fields to the vision of New York with its lighted beacon summits scraping the cloudy sky. New York, the whole continent of America, every continent in the world, at the breaking point—waiting to obey the masterful urge of an invisible unthinkable heavy rock in the depths of space. Fantastic! Incredible! With everything so solid and impregnable. How was it possible for the creations of man to be razed to the dust?

IN that almost completely silent fifteen minutes Ann's mind went swiftly over Man's career—his laborious rise from slime to supremacy over the whims of Nature. Forever climbing upwards, slipping many a time, but now well on the road to sublime achievement. Only to meet up with this facet of nature that had no controller.

"Dad," she said slowly, gazing through the window still, "I wonder if this neutronium chunk has ever been near us before?"

"Does it matter?" he asked quietly.

"It might. For instance it might give a clue to the destruction of Sodom and Gomorrah, the reason for the Deluge, explain why the Sphinx and Pyramids are in the middle of inaccessible desert. A floating world surface attacked by neutronium drag in the past could explain all the transfers of land to parts unexpected and also might show why past civilizations came to such sudden endings. There might even have really been El Dorado, Inca people, and Heaven knows what."

"Maybe you're right," Shaw admitted, wrinkling his brow—then whatever he intended to say was not realized for at that moment the laboratory door opened to admit Radford Blake, preceded by the man-servant.

"Well, here I am—all of me!" Blake took off his hat and held out his hand genially as the girl went forward.

"Catch your subway train all right?" he asked naively.

"This is business, Mr. Blake," she returned curtly. "Meet my father, Dr. Shaw."

"Oh, yes—the scientist. Glad to know you, sir."

Shaw shook hands rather indifferently. It was plain he was still suspicious of reporters, and this massive specimen in particular.

"According to my daughter Ann, Mr. Blake, you will be interested in the positive certainty of world destruction, will you not?" he asked briefly.

"World destruction!" Blake's eyes opened wide and he gulped a little. "Interested? I'll say! Why, what's coming up? More earth temblors, or something?"

"Not a temblor, young man—a quake. *The* quake! Now, here are the main facts—"

"Wait a minute!" Ann broke in suddenly, her voice hard and tense. "Listen! What's that?"

The three of them stood motionless, aware of a deep rumbling roar from somewhere apparently far beneath their feet. The laboratory began to quiver with gradually increasing force. Glass instruments began to tinkle against their stands.

"Sounds like a subsidence of sorts," Blake breathed finally.

"It's the Quake!" Shaw snapped back, tight lipped.

Then Ann leaped to the window. Sheer amazement held her speechless for

a moment, but she was aware of Blake and her father looking over her shoulders.

New York was falling! Shattering from top to bottom in a myriad blinding flashes of light as electricity became rampant and ripped along crumbling steel girders. Masonry, bricks, lights, flames—everything was a tumbling agglomeration to the accompaniment of a thundering growl like the onrush of an express train.

Within seconds the roar caught up with the laboratory. The floor heaved and pitched wildly. Instruments fell over. The light went out. Ann screamed hysterically as she felt herself flying into ebon darkness. She collided with something that sent a blinding pain through her arm and neck

CHAPTER II

Reconstruction

ANN drifted slowly back to consciousness with the awareness of an excruciatingly hurtful arm and shoulder. She felt hot, feverish. Slowly she opened her eyes, realized that it was still night—but a night such as she had never expected to behold. The lowering, drifting clouds were painted with the flickering red of a million fires. The smell of burning drifted acridly to her nostrils: the heavy, strangely mournful silence was pierced in the far distance by a medley of hoots, siren screeches, desperate human cries and dull concussions.

She tried to move, could not for the agony of her arm. She moistened her dry lips and called weakly.

Immediately the tattered, blood-streaked figure of Rad Blake appeared beside her. She saw his strong face set into grim, hard lines. He was no longer

the smiling and impudent reporter. "Fa—father . . ." Ann faltered, staring up at him. "Where is he? And mother?"

He knelt down beside her, looked into her face with serious eyes.

"You may as well have the truth now as later, Ann," he said quietly. "The laboratory came down in ruins. Somehow I got you out, but you've got a broken collar bone and arm— No, no, don't try to move. I was waiting for you to recover consciousness before taking you to the city. Your father and mother and the servants— Well, they're . . ."

"Dead?" the girl whispered, and her eyes misted with a hot flood of tears.

"There are the ruins," he said moodily, nodding to a great pile of crumbled masonry. "All that's left of the lab and house— It's the end of the world. Ann—the end of everything man ever built up. We've got to face that as best we can."

She did not speak, only burst suddenly into tears. A million thoughts were slamming through her tired, pain ridden brain. Catastrophe, colossal beyond all imagination had swept the earth. Her parents gone, her home shattered, civilization at an end. And the future?

She felt herself being lifted suddenly into Rad's great arms. He held her tenderly, firmly, taking infinite care of her injured shoulder.

"Looks like you're going to keep that date with me after all," he said, grinning faintly through his sweat and dirt. "Take it easy, Ann: just rely on me. I'm tough enough to carry a dozen of your weight. I'm taking you to the city—or what's left of it, anyway."

Then he started to walk, steadily, his big blond head outlined against the crimson sky. Ann lay passive, biting her lip so that no utterance of pain

should escape her. And little by little they began to near the smoking, flaming inferno that had been the pride of the Americas.

ONLY an observer on another planet could possibly have gauged the extent of the disaster that had hit Earth in the space of a few short minutes.

The plasmic upper surface, drawn to breaking point by the invisibly neutronium fragment computed by the dead Royston Shaw had at last ruptured. In that horrible moment the whole surface of the earth was tugged round like a loose skin on a bladder. Cities dropped instantly all over the world. Mountains rolled down to the plains, new ones reared up amidst colossal thunders. Volcanoes roared their hellish augmentation to the horror. Tidal waves, drawn by the gravity of the invader at its closest approach, and spilled too by the vast surface changes, roared in solid hundred foot walls over shattered continents. It was the most frightful onslaught the world had ever known. Within the space of perhaps an hour the population of the world was reduced to a third.

In the western hemisphere at least a cold gray dawn revealed a scene of incredible havoc. No war, no diabolical contrivance of man, could have been so all encompassing. Hardly a building was left standing in New York City. Ruins everywhere — crumbled, heart breaking ruins — with the survivors staggering about half demented in their midst.

But such an adaptable animal is Man there began to grow a certain order out of chaos. What had happened in other parts of the world it was then impossible to say: to Ann and Rad the world was New York. Through ways and means they could not afterwards quite recall they found themselves domi-

ciled by troops in one of the few big buildings still standing. There, as best they could, they tried to exist, at least while Ann had medical attention.

Through the ensuing weeks she began to mend steadily. In fact she mended far more quickly once she realized that sorrow for her dead parents was a useless quantity. With a brave smile on her lips she turned to face the new, grim future that had been thrust upon her.

It was during the period of respite that she and Rad, along with everybody else, became the observers of a sudden cycle of terrific electrical storms. They came without rhyme or reason—hours of blinding lightning and stunning thunder. Then they would vanish with curious suddenness to reveal the blue sky. Nobody seemed to have the least idea what it was all about: even Ann with her scientific knowledge was at a loss, unless the storms were the outcome of the Quake.

When they finally ceased and the normal winter returned they were entirely forgotten. Ann and Rad moved on from their confined quarters in the big building and finally took over a solitary wreck of a house to the south of the city. It had no pretensions to comfort. It was mainly one old drawing room, the windows blocked up with boards, the door a little hole at the bottom of the wall. But it was a home—of sorts. And they had candles from the city, and a good supply of smashed beams to make a fire. Yes, it was passable.

"Funny thing, Ann," Rad had said one day, as they sat eating the tinned food he had frisked with some difficulty from the city, "you and I are stuck here just as though we're married . . . I've often wondered if you mind?"

The girl smiled a little, drew her tattered clothing more tightly round her

against the cutting winter drafts.

"Circumstances alter cases, Rad. You've been wonderfully good to me and I appreciate it. I'm sorry now for the way I treated you when we first met."

"Aw, forget it. I was fresh, anyway. . ."

SHE ate in silence for a while, thinking. Then, "What are the folks doing in the city? Anything?"

"Building," he muttered. "That was bound to come. But there is something else with it that I don't like. Out of a disaster like this there emerges a distinct tendency to go totalitarian, like so many of the European states before the Quake. It's only natural. We've got to have a leader, and in their present state of mind the people are listening to Saxby West. And can he hand them words!"

"Saxby West!" Ann echoed. "The former big labor boss?"

"The same—and he's still a labor boss, with more power than ever. Remember how he used to spout about the crumbling foundations of democracy? Well right now he's having a field day, and unless somebody opposes him he'll wind up as a dictator of the country . . . and his rule won't be exactly—pleasant."

Ann meditated. As she well knew a man like Saxby West would inevitably become a tyrant if he gained control over the struggling country. That control he might easily achieve through the influence of his name alone. It had stood pre-eminently for labor and totalitarianism before the Quake. Right now, with the masses in his skilful hands . . .

"Suppose," Ann said absently, "you oppose him?"

"Me!" Rad stared blankly. "Damn it all, Ann, what chance would I stand against—"

"Plenty of chances!" Her gray eyes became suddenly keen as she looked across the rough table. "You're a hundred per cent American, you have a commanding appearance, especially with that long blond hair and yellow beard. You've got the physical power to assert yourself; you can talk by the ream."

"In fact, I'm a mighty nice feller," he grinned.

"I'm not trying to flatter you, Rad: I'm just stating facts—checking up on your assets, if you prefer it. Another thing, you know what caused the Quake: I've already told you the story dad had no time to give. That will give you a starting point with the people. . . . You can also reassure them that the horror will never come again, that the invader, the neutronium, has gone on its way forever—as long as our lifetimes are concerned anyway. Last of all, you're a democrat, and as such you're closer to the heart of most Americans than Saxby West is."

"Say, maybe you've got something there, Ann." For a long time Rad sat pondering, tugging his square yellow beard. Then he looked up anxiously. "I suppose that neutronium chunk *has* gone forever? I'd be in a frightful spot if it came back after all my assurances."

"But of course it's gone! Dad said it would pass right out of our system. If it ever does come back it will be so far in the future we don't need to worry over it."

"Then—maybe—I could do something," Rad mused. "Trouble is, I would need the dickens of a knowledge to take over a crumbled world."

"Not a bit of it. You have plenty of ordinary knowledge—must have from your writing experiences. If you became dictator men in specialized fields would rally round you. And if it's science you need sometimes you always

have me. I know a thing or two about it, remember. Rad, I'm sure you could do it—if you wanted."

He reached out across the table, clasped her slim fingers in his big hand. "That's all I need," he whispered. "If you believe in it to that extent it can be done. They'll make Radford Blake their leader, and like it!"

For a long time afterwards they sat making plans, forming new ideas. Somehow, the future no longer seemed so black.

RAD BLAKE'S campaign gave both him and Ann something to live for in the slowly regrowing city of New York. Day by day, throughout that bitter winter, the girl accompanied him on his tours of the ruins, sat by him as he stood and talked to the people in the shelter of crumbled edifices and held forth on the advantages of democracy and the law of freedom for every individual.

And little by little he made headway. People began to take notice of the blond giant with the flowing beard, and of the quiet girl who rarely made a comment. He was obviously sincere—even to the point of using his sledgehammer fists where necessary. Besides, had he not formed numberless men and women's clubs, organized new relief systems, put down a great deal of the looting and rape and murder that had followed the Quake? Was he not, in truth, a great warrior and pioneer breathing the spirit of the Americas? And did he not believe that every man, woman or child should have the right to pass an opinion?

Definitely! And Saxby West found his own campaign boomeranging upon him. His dictator ideals were not nearly so attractive as Rad Blake's democratic promises. West's fond dream of a totalitarian country and easy riches be-

gan to fade gradually. Despairing, he did away with fair methods and tried all underhand methods to be rid of Blake. But he failed: Blake watched and defeated every move.

By the early Spring of 1991, when New York was forming into a recognizable city again and other cities on the continent were starting to sprout from dead ashes, it became obvious that Radford Blake was going to be the undisputed master of America.

By the month of May he had achieved his ambition—gone far along the road from the drafty hovel where he and Ann had first debated the idea. In the intervening time his powers of speech had bound together the vast majority of people in a common loyalty: he had instituted laws for the country that were generally acceptable, had done away with all suggestions of a Congress. Certainly he was a dictator—but a democratic one, and therein lay the difference. He was the first in history. But history—and geography—had to be written anyway.

June, 1991, found him officially elected Dictator by an overwhelming majority over Saxby West. West took the defeat with a bitter smile on his lean, cruel face. Rad knew, deep down, that if the slightest chance ever arose he would be smashed from power with ruthless savagery. West still had a following: by a rigid campaign of mind poisoning he might finally swing the balance over in his favor. But that was in the future.

The occupation of a master building in the heart of New York, with Ann, now his wife, by his side, was by no means the end of the road for Rad Blake. Now he had gained the position he had to consolidate it, bend his own and the girl's knowledge entirely to the task of reconstructing the totally shattered scale of balances that had existed

before the Quake—a scale that had been badly in need of leveling anyway.

He had the advantage of clever men and women with initiative as his immediate circle of advisers. They helped with the real eagerness of men and women anxious to see their country dominate the world again. They toiled and labored on the schemes of Blake and Ann, saw New York in the space of another year grow to something of its old giantism. Other cities were grown up again too. Roads networked the continent once more: radio stations were back: sanitation, power, railway, and air were once more commercialized. The contact with distant rebuilt parts of the earth began again.

Blake, still bearded, the massive and genial master of it all, had reason to be proud of his efforts, and of the slim, capable girl by his side—

Then came the shadow—out of a clear sky of progress.

CHAPTER III

The Ice Will Come!

IT STARTED with the curious coldness of the Spring of 1993, a coldness that dragged on until early June, with the consequence that the crops so necessary as staple foods for the needs of a newly organized mankind were far below par. Already America and other countries were beginning to feel the shortage. Nor was the summer, when it did finally come, particularly helpful. There were night frosts to add further ruination.

The reason was obvious enough. Blake and Ann had the astronomers on the job immediately and within a week they sent in their spectroheliograph plates and bolometer readings, together with masses of notes. Sunspots were at the back of the trouble—a rather ab-

normal number of them, just at the close of their usual 11-year cycle. Nothing to worry about, except that their unusual prevalence was blanketing the sun's radiation and creating abnormally cold weather.

Blake and Ann were both satisfied with the explanation for the time being—but the fall of 1993 brought not a cessation of the spots but an increase. Throughout America and the world there there went a grumble of alarm. This was not according to astronomical law. . . Food was short. The land was getting frozen long before its time and a long deadly winter loomed ahead. What was to be done about it?

Saxby West was not slow to see the opportunity either. His agents went to work, stressed the fact that, as a scientist, Dictator Blake should have foreseen this cosmic trouble and made due preparation for it. Not much of an argument perhaps, but West was clever. He knew human psychology. The peoples of America, paying fantastic prices for their foodstuffs and heating materials were just in the mood to listen to the first honeyed breath of totalitarian promises.

Facing another set of plates and readings, wading through the mass of information supplied by the astronomers, Blake began to see he was facing something he had never bargained for.

"It's—it's so ridiculous!" he expostulated to Ann, as she stood at the great office window staring down over night-bound New York. "Why should the sun suddenly decide to have an extra supply of spots at this very time? And spots that continually grow larger?"

At that she turned. Her face was set and serious as though an inner thought was disturbing her. He quiet gray eyes looked at the plates, at the unpleasant vision of the sun's photosphere blotched with cancerous dark markings, some of

them even reaching to the solar poles.

"Rad," she said slowly, "I believe we're up against it in real earnest this time. Not only us—but all the world! It's the aftermath of that neutronium chunk. . . I've been thinking things over, and the points hang together so well it frightens me. Frightens me to think what is going to happen."

"I don't get you," Rad said shortly, glancing up at her.

"I believe," she answered pensively, "that that neutronium chunk did *not* continue into space as dad had expected: it fell *into the sun!* That would be when those electrical storms struck us. Remember? We couldn't figure out the reason for them. After all, it is quite logical to assume that that chunk would fall in the sun. It was not moving fast enough to achieve an orbit round the primary, so it was drawn into it instead. It would automatically fall to the center. Since also it had not at any time the individual power to shift a planet, its gravity field added to that of the sun's would not make any planet alter its position in space. The sun's pull would be increased, yes—but not sufficiently to make any visible difference."

"What's all this got to do with sunspots?" Rad demanded.

"Everything. The presence of that white dwarf in the sun's interior would produce drastic changes. For one thing the internal temperature would rise enormously, and that very happening would spell disaster. Our sun is a main sequence star of the G-type.* If, as now seems inevitable, the sun's interior heat has enormously increased it means that atoms no longer exist—there is an ever spreading inner field of free electrons and nuclei. These will finally con-

tract into a compressed mass—the state of—of a white dwarf."

"You . . . you don't mean *our* sun is turning into a white dwarf?" Rad asked haltingly.

Ann slowly nodded. "Yes, Rad—I do."

"But—but why?"

"The sunspots are the visible sign of collapse—and the more they spread the nearer the disaster comes. All the time now, the sun, with its vastly increased internal heat, is contracting also. The radiation cannot get through the increasing density of solid matter piling up. The sun is slowly closing up, squeezing inwards on all sides, until ultimately the whole photosphere will be one colossal spot and will cave in. Then the sun will be a white dwarf."

"For all time?" Rad whispered unbelievably.

"For all time." Ann stood staring straight in front of her. For three minutes there was not a sound in the room save the relentless ticking of the electric clock.

"Strange," Rad said at last, "that the astronomers have not come forward with the same theory. They *must* know. . ."

"You can be sure of it," Ann nodded. "They probably do not know the cause because their knowledge of that neutronium chunk is rather limited—but they do know effects. All of them must realize in their innermost hearts that the sun is dying."

Rad got suddenly to his feet, ran a hand through his thick hair.

"We must make preparations, Ann! People must go underground. The whole world must know what's coming. We'll have to start all over again."

"It won't be as easy as all that, Rad. Saxby West has been waiting for a chance like this to turn the people against us. Unless I judge him entirely

* A G-type star is one in which the atoms are still surrounded by their K-rings of electrons while the exterior rings have been shattered by the tremendous heat.—Author.

wrong he will say that you got into power under false pretenses, knowing all the time that that neutronium would land in the sun and produce this trouble. . . Not only have we to keep the people beside us but we have to combat his totalitarian crusading as well. As the days grow darker and colder, so will his power increase."

"Then what do we do? Keep quiet?"

"We can't do that. Explanations are long overdue. No; we've got to trust to the loyalty of the people."

BUT loyalty has its limits, particularly when harried by increasing elemental terror and growing cold. With perfect frankness—but not a little inner uneasiness—Blake had the truth about the sunspots published for America and all the world to see. How the rest of the world took it was not his concern: his immediate worry was his own country.

Men and women were stunned into disbelief at first, could not credit that they had escaped one world disaster only to walk into another of even greater and more durable magnitude. Most of them believed there was an error somewhere, that the sunspots would go. But they did not go.

By the mid winter of 1994 the sun had visibly lost its normal brilliance. The spots covered its disk in a brown, almost unbroken cloud. Cold such as mankind had never known descended on the earth. Evacuation from northerly latitudes began. Vast multitudes of refugees flocked into frost bitten America, struggling against blizzard hurricanes.

Rad Blake was facing a desperate situation. Food could only be brought to the Americans by men of superhuman strength and bravery, men who were willing to pilot their fast air machines over freezing oceans and through

a deepening twilight. And even when the food came it was insufficient. More often than not the planes crashed. Food was a mighty problem, ranking equal with the task of building titanic underground shelters for the people that they might find a haven when the surface became unsupportable for life.

Possibly Rad's schemes would have succeeded had it not been for the activity of Saxby West. He rose to a sudden peak of campaigning genius and lectured to the frost bitten, starving millions. He denounced Rad Blake as a traitor, as a blunderer who should have foreseen this second disaster. He—West—had known all along that it was coming, could even now save the world if he were given power.

Wearied and hopeless, the millions of America began to listen to him and his agents. He had the burning fervor of the idealist. There was rocklike resolution in every utterance he made.

And February 1994 found Rad Blake with a revolution on his hands just when he most urgently needed cooperation. True, there were thousands of loyal far seeing democrats who backed him to the last, stood shoulder to shoulder manning instruments of war in an endeavor to protect what they believed was the only possible form of government. But gallantly though they fought they were outnumbered by the hungry myriads under West's control.

Blood stained the fast deepening snows of the Americas. Cannon, ray gun, and bomb tore the approaching glaciers asunder. The democracy of Rad Blake smashed in a thousand pieces. He and Ann came out of a whirl of struggle and carnage to find Saxby West triumphant with a demoralized, gasping people at his heels.

AFTER a month in power, in which time he had formulated plans ex-

clusively his own, West sent for Rad Blake and his wife. He couldn't resist a slow, gloating smile creeping over his hatchet face as they stood before his desk.

"I always knew it was wrong for you to have control, Blake," he said softly, leaning over the desk. "You're not the type—too soft hearted. The masses need an iron hand."

Rad shrugged. "I'm not concerned for myself right now, West: I merely did what I thought was right for the good of the people. And you must do likewise! They need help more than ever now. Our ideals are different, of course, but we're both motivated by a common purpose—that of housing mankind underground."

"I know that, Blake—but at least the people will not find my methods quite so expensive as yours! Your estimate of \$7,000,000 for each shelter was positively fantastic. I can do it for \$1,000,000 and with labor thrown in. In fact I'll conscript labor for the purpose."

Rad glanced quickly at his startled wife, then back to the coldly smiling Dictator.

"Say, wait a minute! What the devil are you going to use for the shelters for them to be that cheap?"

"Reinforced steel. That's all that's necessary. Unlike you, my friend, I do not propose to use a cheap alloy and call it a new discovery, thereby pocketing some five of the seven million dollars left from the estimates."

Blake controlled himself with difficulty. He moved forward slowly, rested his clenched fists on the desk and stared into West's sardonic eyes.

"Now get this, West—My estimate for those shelters was exact, and showed no profit. I was dealing with human lives, and the only way to make dependable shelters was to use *alcasite*, the new metal my chemists devised the mo-

ment we knew this trouble was coming. It is the only existent metal which will stand up to a pressure of four and a half million tons to the square inch—and that's what the ice will weigh before we're through. But the stuff's costly. Don't you realize, man, that reinforced steel will buckle up like plywood? You'll kill everybody! You can't do it!"

"I've been in the steel industry all my life, and I know what it can do," West answered, with unshakeable calm. "I don't need stuff like *alcasite*. Besides, your chemists were democrats—still are, I understand. That rules them out entirely."

"What you really mean," Blake said slowly, "is that you plan to use steel *in place of alcasite*. It looks identical anyway, and since all your engineers will be totalitarians they'll keep quiet. You will betray every living soul into a series of death traps so you can pocket the profits. Naturally you will use steel at *alcasite* price and leave the figure unchanged. Then you and your overfat financial hordes will absorb the profits, all of you too damned dense to realize that you're signing your own death warrants and that not a red cent will ever come your way."

West shrugged. "What I choose to do, Blake, is entirely my own concern—not yours. I may as well tell you that I do not believe this rubbish about sun-spots anyway. They'll clear—I'm sure of it. And steel will stand up to the job for shelters. It's been used for underground bores before—"

"But never under such terrific pressures!"

"And so it will stand up to this," West went on, ignoring the interruption. "When the spots clear and the earth returns to normal only one thing will dominate the world—money! I shall have that. I can dominate the earth."

"I tell you it means world death!" Rad shouted desperately.

"In any case it won't concern you," West retorted. "I have already made my plans for all democrats. Altogether there are some three thousand of them imprisoned here, taking up room. To kill them all would demand too much time and too much power. I have decided on the other method—exile. Exile to the polar wastes, there to die. . . . And you and your wife, as leaders of that party, will go first. Within a week. The rest will follow. You will send in remote controlled airplanes with insufficient fuel for a return trip—and no food. The airplanes will be useless for the future in any case, so they may as well serve a useful final purpose."

Blake straightened up very slowly, smiling bitterly. He put a huge arm around Ann's shoulder.

"All right," he said at last. "It's about what could be expected from scum like you anyway. Go ahead—We've been through too much to be afraid now. Eh, Ann?"

She nodded quickly, but not very convincingly.

"Such heroics," West murmured dryly, and pressed the button at his elbow.

CHAPTER IV

Marooned in the Arctic

SAXBY WEST carried out his ruthless plan to the full. Unable to raise a finger to help themselves, Rad and Ann, a week later, were lifted into the cabin of a powerful two-seater plane, were bound to their seats before the remote controlled switches. Nobody save the mechanics was present to see them off. The cabin door slammed shut upon them and within minutes the dimly lighted snow crusted expanse of

New York began to recede from them.

Throughout most the journey northwards they sat tusselling and struggling with their bonds, were too much occupied in using their teeth on one another's knots to take much notice of the exterior. They only realized that a white, glimmer-lit world was speeding past below them.

By the time the plane finally landed on a colossal ice plateau a night of starlit darkness had apparently descended. Certainly they were free at last—but to what use? No fuel in the tanks, no food. Water yes—from the ice outside.

Rad gave a twisted smile as he checked over the instruments, rubbed his chilled hands. Finally he tugged open the door of the clothing locker and gazed in some surprise on two suits of Arctic furs.

"Well, evidently West has a sense of humor!" he commented dryly, pulling them forth and handing one to Ann.

"Or more likely the mechanics who sent us off have more humanity than he has," she answered, scrambling into the grateful, furry warmth. "Food they couldn't manage—too difficult, but suits would not present much of a problem. Not that I see much advantage, anyway. It's only postponing things, isn't it?"

"I guess so."

Wrapped to the eyes they stood looking at each other for a moment, surrounded by an all pervading, tomblike silence. When at last Rad gave a short laugh it sounded oddly noisy.

"I suppose I'm nuts," he said slowly, "but I have the oddest feeling that I want to get outside. I want to walk—and walk—and walk. Get away from this little prison."

"You're not nuts: I feel the same way," Ann said quietly. "A sort of—of urge to move. That it?"

He nodded, turned to the door and

swung it open. In another minute he and Ann were together, glass helmets in position over their faces to shield them from the sword edged wind. They stood motionless for a while, aware of the fact that it was not actually night. The sun was shining—but what a travesty it was! It looked like a fire just about to die out, hanging low to the horizon in conformity with this northerly latitude. The stars gleamed in the ebony black sky with a brittle, inhuman grandeur. To the east, a moon looking as though it were in the umbra of total eclipse floated over the horizon. And then the titanic ice field itself, a perfect sample of the sheath that was bound sooner or later to encompass the world.

Neither Ann nor Rad spoke. In any case to do so meant raising their face helmets and consequent exposure to the wind. They turned and walked by common urge towards the west. Both of them were wondering exactly why they were doing this. They felt inevitably that they *must*. Sooner or later, they both realized, the cold already seeping through their furs would overpower them. They would drop, fall asleep, never awaken again. That was what this walking meant.

THE idiotic, expiring sun remained exactly where it was as they moved. It seemed endless hours to Rad before they finally came to a halt. Ann was pointing her furred arm ahead with curious eagerness. He wiped his sleeve over his face glass and stared, puzzled.

A long thin black line was breaking the eternal monotony of the plateau. He glanced at the girl sharply.

"Crack of some sort," he said, raising his helmet—and the breath froze instantly on his lips.

Ann nodded dumbly. They went on again at a somewhat faster pace, drawn now more by curiosity than expectancy.

Probably only a gap where the ice field had parted anyway. And yet, in such cold?

They reached it at last, stood in awe struck amazement on the edge of a vast ravine some two hundred feet across. And down in its depths there was no ice! Despite the zero wind and all embracing cold not a trace of ice had formed. The thing was incredible.

After a moment or two Rad made up his mind, pointed into the chasm's depths. Ann guessed his meaning and nodded. By slow degrees they began to descend from ice to a region of bare-faced rock that had not even a vestige of snow. Baffled, Rad raised his face helmet experimentally—but the merciless blast of cold was absent. Down here the air was almost mild.

"Volcanic action?" Ann questioned, pulling away her own shield and staring around in the starlight. "Can't be anything else, can it?"

He shook his head. "Dunno. I never heard of volcanic action in this part of the Arctic. More likely that the Quake opened up new seams in this quarter of the globe and this is one of them. Funny it being warm though."

"Even funnier how we walked so conveniently to it."

"Yeah—that's right." For a moment they stood looking at each other perplexedly. There was little doubt about the fact that some inexplicable urge had driven them hither from the airplane. Exactly why neither of them could understand.

"Well, let's go lower," Ann said at length. "Might as well finish the job now we've gotten this far."

The warmth remained at the same temperature as they climbed slowly down into the dim gloom. They descended nearly three hundred feet before they finally touched bottom—And here was a curious thing. The bottom

of the ravine contained a smaller crack along its entire length of no more than two foot width—but it was not rock, but metal, torn apart by the unimaginable force of earth concussions where the surface had slipped in the Quake.

"Metal—*here?*" Rad breathed in amazement, going down on his knees in the starshine. "And what a thickness!" He peered into the black depths. "Must be nearly six feet thick! Nothing but an earth slide *could* have broken metal like this."

"That's far more understandable than how it got here," Ann said, frowning. "What do we do now? Go in?"

"May be bottomless. Just a minute. . ."

Rad reached aside, picked up a comfortably heavy stone and dropped it in the crack. Almost immediately afterwards there was a metallic response from the depths.

"Only about a twelve foot drop," he muttered. "Might as well die in here as anywhere. Let's go!"

HE dangled his feet over the edge of the crack, lowered himself until he hung by his hands, than let go. As he had guessed, the drop was not very considerable. A moment later the girl had fallen in his arms. In silence they stood peering round in the blackness. The warmth here was more noticeable than ever, flowing round in comfortable waves.

"Well, for all the good we'll do here we might as well be stone blind," Ann grunted at length. "It's warm, sure—but it must be volcanic action. We'd do better to try and get back to the cold and just fall asleep."

"I'm not leaving here until I've found out what the hell this place is doing in the Arctic," Rad answered stubbornly: then she heard him prowling around in the gloom. She stood waiting in moody

silence, and more than once she could have sworn she felt the vibration of deeply buried engines somewhere beneath her feet—

Then with startling suddenness there was light! It gushed forth in blinding brilliance, made them cover their eyes for a moment. . . When they could see clearly again they found they were standing in a small circular chamber like the safety compartment of a submarine. At one end it ended in sheer metal wall, but at the other there was a massive valve with a monstrous bolt thrust across it. No age, no sign of corrosion, had touched that strange metal.

"Well, where the devil does the light come from?" Rad demanded at length, gazing round. "Must be concealed between ceiling and wall. But who switched it on?"

Ann pointed significantly to the floor. "Maybe that vibration has something to do with hidden engines. Feel it?"

He nodded slowly, scratching his chin in bewilderment and staring up at the sundered roof. Then he swung round and went to the valve, started to work on the clamps and bars with Ann assisting him. Even so it took them an hour. Then it swung open slowly to reveal a softly lighted cavern that was in itself a wilderness stretching to infinity.

They stepped through the opening, glanced back sharply as the valve mysteriously closed again behind them. They had taken an irretrievable step.

But for the moment the view absorbed them. They stood gazing on buildings and machines in untold numbers. Between the buildings were fields of synthetic crops growing sturdily under the artificial light. No living thing tended those fields—only robots who used mechanical aids to efficiency. Here indeed was a miniature continent

flawlessly designed to meet every possible need. There were even radio towers and strange forms of traffic, all robot driven. Somehow the place looked like a vast scale model operated by an unseen hand.

At last the dazed eyes of the two rose to the further side of the colossal place. They beheld metal wall, arching up to a tremendous height and ending at last in a gigantic circle. Nor was it a plain circle—it was a perfectly drawn replica of the moon! The markings were unmistakable, chiseled into the metal. The dead seas, the rills, the craters, the mountains—

"Map of the moon," Ann breathed in wonder. "Can there be—be Selenites in this place?"

Rad looked round with mystified eyes. "Search me! Anyway, it's shelter. Food too no doubt and—" He swung round sharply at a sudden sound, gave an exclamation of alarm. Four robots had approached silently from the expanse, driven by powers unknown.

TO dodge them was impossible: they moved too fast. Before either Rod or the girl had a chance to escape they were seized in the metallic arms, lifted irresistibly, and borne along towards the heart of the vast mechanical expanse.

Finally they became passive and gave themselves up to looking about them as they were carried through the heart of the replete city to an ornamental looking building a little apart from the others. It was divided up in the fashion of a normal apartment block, but once they were inside its brightly lighted reaches they discovered as they passed that each room was far more perfectly conceived for comfort and service in a small space than any they had ever known.

Into one of the apartments they were finally taken, set down carefully on a divan, and left to themselves. The door closed gently, locked significantly.

"Now I know I'm dreaming!" Rad ejaculated at length, looking round on the softly lit walls of blue enamel, the quite normal looking furniture, the grateful warmth of the sunken heater. "Why, dammit, it's better than a first class New York hotel!"

Ann was about to speak, then she looked up with a sudden start as a panel in the wall opened abruptly and shot forth a heavy, loaded tray filled with drink and foodstuffs. Softly the panel slid back into position.

"You're right—it *is* a dream!" she said wryly. "We're out in the ice fields right now, having delusions—thinking of all the things we'd like to have, and instead—"

"Eat, my friends!"

They swung round at that voice, but saw nobody. Then Rad gave a sudden start and pointed dumbly to the wall over their heads. A panel had come into life as a screen and was televising a picture of a man of apparently incredible age, his face a network of seams and wrinkles, his mouth toothless and sunken.

"Oh!" Ann gasped, horror stricken. "How—how awful!"

"Shut up—he'll hear you!" Rad hissed.

Evidently her voice had carried through a concealed microphone for the faintest suggestion of a smile curved that old mouth. The almost hidden eyes peered out from sunken sockets.

"Don't be alarmed, either of you. I am your friend. Eat, and while you do so I will explain."

Slowly they stood up, tugged off their stifling suits, then moved to the table. The food was all they could have wished, and the light wine that went

with it—but they were so busy looking up at the televised face they had hardly time to notice anything else.

CHAPTER V

City Beneath the Ice

"I AM OLD," the face said wearily.

"Unguessably old, but I have preserved my life by every means known to my science until such a time as this, when a worthy man or woman—or as it happens, both—could take over the results of my own and my dead colleagues' scientific achievements. That day is here.

"I know you, Radford Blake—and you, Ann. I watched your rise to power through televisional means. I watched your courage in the face of overwhelming odds, and I watched too your dethronement by the unscrupulously ambitious Saxby West. I had planned that I would send for you at one period, then I stayed my hand when I realized you were to

be sent to the Arctic. It was inevitable that you should find the ice break—mental telepathy, amplified, forced you to find it. Maybe you felt an uncommon urge?"

"Yes," Rad acknowledged very quietly. "And you, sir—what are you, anyway?"

"I am a Selenite—the last of a mighty race of a world long since dead. I am a master of science, a ruler of mechanical aids to progress. Here in this deep underworld you behold scientific



"I am old," the face said wearily. "Unguessably old. Ages have I waited for your coming."

perfection and synthesis to the last degree—but not synthesis of life. That has forever eluded me. There was a time when my colleagues and I ruled the moon. At that period earthly life was crawling up the ladder. Volcanic eruptions and fast thinning air on our own world forced us to the mother world. We built numberless cities in various lands. In some cases my ancestors rose to dominance, but in other instances licentiousness and laziness brought an end of those early civilizations.

"We were a young race then, full of the follies of the young. But there came a time when a terrific earthquake shattered all our works. The entire surface of the globe slipped. Sobered, my forbears realized they had to start again. A weeding out began: the scientific was sorted from the useless. What remained of the cities were mere ruins, thousands of miles from their original position because of an earth-slip created through the passage of densely heavy material close to the earth."

"Neutronium?" Rad demanded. "The one we recently encountered?"

"The very same, but on that occasion it was far enough away to escape being drawn into the sun. It became evident to my people that the surest method of progress lay in going underground, in the least known quarter of the world—the Arctic. Down below the race would not interfere with normal mankind and could also be left in peace under a solid roof of pack-ice. Further, there was inexhaustible power supply to be gained from the earth's steady spin against the ether—enormous currents concentrated at the Pole, the surplus of which has sometimes been seen in the form of the Aurora Borealis, or else has been driven to the opposite pole to appear as the Aurora Australis.

"Down here, protected by a metal which can never be crushed by the mightiest of ice, given power that can never fail so long as the earth rotates—and therefore independent of the light and heat of the sun now so surely expiring—is a land for the chosen. And the chosen shall be those who tried to gain real government, and failed. Those whom you call democrats, and who will be bound to be exiled to these polar wastes before long. But as they come, my telepathic machinery will lead them here even as it led you. That they will be worthy remains undoubted. Particularly as you will again rule over them, Radford Blake."

THERE was a long silence, then at last Rad said haltingly,

"You—you mean you are handling this—this land over to me and my followers without knowing a thing about me?"

"I know all about you: I have intimated that much. I have followed your movements, understand your language, have debated all there is about you. I know you to be a young man of strength and just motives, with a wife who has useful scientific knowledge which can soon be augmented. I shall only die content when I know that this long empty land—save for me—has been handed over to worthy hands, representatives of the mother world, Earth. Down here, when the surface is frozen and dead, you and your followers will have nothing to fear. No amount of ice can ever smash this underworld. Nor will there ever again be an earth-slip. What damage could be done has been done—one compartment broke under the force of sliding ice above, but naturally the slip was by no means as noticeable at the pole here as it would be on the equator line. Fortunately the automatic sealing doors closed the

broken compartment section for all time. I left it as it was, knowing you would eventually find it useful no matter in what manner you finally came here.

"In all your wildest dreams, Blake, you could never have made so perfect a haven for your followers. Not even with *alcazite*. I have done what I can to transform these buildings into earthly appearance for the coming of the others—but there is still much to do. I shall need help. Rest now, both of you, and later we will meet personally. You will then see the resources of this chosen land, learn what to do to take my place, master all details. And then—"

The face faded from the screen. The speaker became mute.

COMPLETELY unaware of the strange events being enacted in the far North, sure within his own mind that the fading sun was only a temporary phase, Saxby West took advantage of his dictatorship with a ruthless disregard for human feelings, concentrated mainly on exactly how much he could make out of a deal with protective shelters.

Once he had seen all the democrats exiled to the Arctic—men, women and children sent forth in remote controlled planes without a single personal possession—beyond what they could smuggle along at the last moment—he felt ready to tackle more immediate matters. In vain, astronomers warned him that the sun was really dying. Being a totally unscientific man he did not place the slightest credence on what they said. He stifled all their reports, suppressed all news that might leak to his masses of followers—or when they got too inquisitive he had them done away with entirely through the medium of his relentless agents.

And as West's armies of men bur-

rowed into the earth with the best instruments at their command, the earth grew colder. The sun, after West had been in power for three months, had become a mere red ball that no longer gave forth heat at all. The moon, shining by reflected light, no longer appeared in the heavens.

Beholding these things West had to admit he was inwardly a little disturbed. Things had gone much worse: no sense in denying that. Nor was there much optimism in the news flashing to him across the frozen world of vast ice storms obliterating what few surface cities remained, killing millions of people in the very midst of their effort to drive underground.

West increased his efforts. Once he even regretted that he had exiled all the *alcazite* chemists to the Arctic. He had to rely on reinforced steel now whether he liked it or not. No matter, he was piling up millions for future control. Shelter after shelter, stocked with every possible necessity to meet a long siege, was rushed through to final completion at fifty feet below the surface. West allowed no respite.

With his immediate associates he evolved a counter check system for the housing of the populace, but even at that he was forced to the realization that if millions could be sheltered, far more millions would perish. He suppressed the information hurriedly, worked out a system of survival for those whom he knew were rigid totalitarians.

BUT that did not satisfy the people. They were becoming insane with panic as news of disaster after disaster radioed across the darkening, freezing world. They demanded shelter as the sun turned from red to a pale, dull glimmer, as they staggered helplessly in sub zero winds, or died horribly in their ef-

forts to get justice for themselves.

And through it all crept vast ice pack from the oceans. Insomuch as water on freezing expands a twelfth of its volume, the frozen oceans began to crawl over the land in a solid, slow moving tidal wave, a white juggernaut that mowed down everything in its track invincibly. It came from out of the dismal, howling wastes of the north, closed down slowly towards the darkening equatorial regions like a mammoth hydraulic press of ice, waiting to join the other mountainous ice pack creeping up from the south polar regions.

Regardless of orders, of checking systems, frantic with the nearly instellar cold, and hunger, the lashed peoples of America made for the West shelters and fought their way in against troops and all the resources of the militia. This was the last chance of survival. And still they did not know the shelters were only steel. They had assumed that the impregnable *alcasite*, used by Radford Blake was being used by Saxby West also. Not yet did they know how utterly their demigod had betrayed them.

Huddled in the depths of the shelters they heard the last wild cries from other parts of the doomed world. In Europe, shelters of beryllium steel and concrete had smashed in like eggshells under the impact of spreading Atlantic ice.

The buried people of the Americas laughed hysterically. They had *alcasite*! They waited, confident— But Saxby West himself was stunned into speechlessness when the news of beryllium steel collapse—far stronger material than his own reinforced steel—came like a truncated cry from the wilderness. He sat in his own quiet shelter with his men around him—the men who had shared in the gain of profits from substituting steel for *alcasite*. Financiers, most of them, masters of labor, using the masses as pawns.

And now they too faced death!

They sat in a little semicircle before the viewing screens connected with the surface, watched the milling myriads that had been locked out at the closure of the gigantic valves, watching them as they ran in mad fright before a vast wall of shining white crawling inevitably forward in the dim light of the stars. The surface metropolis was crumbling and rending. The ice reared up like a titanic arm of judgment—in-avoidable, relentless.

Jasper Gaylord, controller of more money than he could possibly imagine, turned his fat, greasy face to the silent West in sudden fright as the mass loomed nearer.

"West, what have you done?" he shouted hoarsely, leaping to his feet. "What have you done to all of us? Nothing can stand against *that*! Nothing! How are we supposed to survive to use the money we have made?"

Silly, trifling little cry in the face of all embracing doom. West knew it now, sat huddled in his chair, deaf to the chatter of his colleagues, his eyes fixed immovably on that screen. He was realizing in those agonizing seconds whither his totalitarian ideals and passion for money had led him— Into extinction.

He must die, and millions with him.

Perhaps it was minutes, perhaps hours. He did not know. But he realized that at last all the thunders of a crashing world descended upon him as the ice pack came right overhead. He had a momentary vision of steel walls crumpling up like sheets of thin tin, of hearing wild and frantic shouts from the depths of a crumbling hell.

Then blackness. . .

THE world was dead. The last trumpet had sounded. From end to end, from equator to Poles, there was a

sameness. As the months had passed, ice leveling itself over mountain, plain and former sea, it had formed itself into one complete blanket. The atmosphere too was slowly solidifying. Life was extinct—except in the far north.

There, some two miles down under the ice, the democratic exiles had come—those who had been able to brave the blizzard winds and answer the telepathic impulses from the chosen land. Even so, many had died in the struggle. Now some fifteen hundred were present—men, women and children. The race would go on, under the ice, might one day even defeat their prison and escape to other worlds. But that was in the future. For the present, they were content, chained to a planet that had a white dwarf as its luminary, a faded, densely heavy star that had been the lord of day.

Truly, the end of the world had come. Yet to the buried people there was a certain richness in the situation. They

had everything they had formerly had—and more. Their little universe was still expanding into the deeper quarters of the still hot earth. They were doing things denied on the surface because of tempest and flood. Many of their democratic ideals might reach a glorious fruition.

And they had Rad Blake and Ann as their leaders. Some day, perhaps, their children would take over control of the rising generation, and so it would go on.

But Rad and Ann at least knew whom to thank. There were times when they went into a little known quarter of the city and gazed in reverent silence on a small, weedy figure—stone dead, yet preserved at his own will by scientific processes.

The last man of the moon had died content. The knowledge of his peoples, the finer principles of a world wiped out by cosmic disaster, would live on—until the world itself became drifting dust.

DIAMONDS

The diamond is the purest form of crystallized carbon. In the diamond, every carbon atom is symmetrically surrounded by four other carbon atoms, arranged at the corners of a tetrahedron in such manner that the whole crystal is one continuous molecule, thus explaining its great density and hardness. A perfect diamond is quite transparent and colorless, although it possesses that marvellous "fire" which we see oscillating with every movement, but most precious stones are tinged with grey, yellow, or brown. It is due to the high qualities of refraction and dispersion of light that diamonds give off the beautiful flashes of blue, gold, and red. The color of many precious stones is really produced by minute proportions of impurity.

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The Man Who Walked



"Look at the mirror, through the machine!" commanded Clerk, grasping Stanhope tightly around the neck

Through Mirrors



By ROBERT BLOCH

EDITOR STANHOPE gazed at his mild, round face in the mirror. He noted the redness of his eyes, the tight lines around his usually placid mouth, the dishevelment of his ordinarily orderly blond hair. He looked like the devil.

Ordinarily, the editor enjoyed receiving visitors. Some of the magazine authors were old friends of his; some of the fans were welcome guests in the office. But today had brought out the screwballs.

Stanhope sighed. Running a science-fiction magazine had its drawbacks. There were eccentrics interested in the field, and at times they got ideas. One day a man had come up to the office with a perpetual motion machine, made out of rubber bands.

Another visit produced a wild-eyed little fellow with an egg-beater attached to an electric motor. He had set the contraption up in the editorial office and insisted that Stanhope look into the revolving blades of the egg-beater and see the Fourth Dimension. It was exasperating. Today he had been visited by no less than three of these nineties; all armed with pages of formulae and garbled quotations from Charles Fort or *Tertium Organum*. Editor Stanhope had been quite diplomatic, but it was a strain. And stories! "Every

**To Stanhope's office he came,
bearing a strange machine.
Obviously he was mad, his
machine a fake, and yet . . .**

Story Scientifically Accurate" read the lines on the cover of the magazine. It was Stanhope's sole standard. And the manuscripts he read today were impossible.

There was the old story of the man who went back in time; written by somebody who probably thought a time-machine was some kind of alarm-clock.

There was a novelette in which the city of New York was destroyed by Martians, and once again the Empire State Building fell down. Editor Stanhope firmly resolved never to buy any more stories where the Empire State Building fell down. Why couldn't they pick on some other building for a change? Even the Chicago Tribune Tower would be a novelty; but no, it was always the Empire State Building that had to go boom. He wondered what Al Smith thought when he read all this.

There was a story about an atomic disintegrator ray; sound in theory, but with human characters so wooden and stilted the editor wished to heaven they'd turn the ray on themselves.

It was discouraging. But stories must be bought; good stories. "Every Story Scientifically Accurate." Editor Stanhope scowled into the mirror, then read on grimly. He was half-way through an absurd item about a spaceship with wings, meanwhile thinking of how Stanley Weinbaum must be turning over in his grave, when the door opened.

Stanhope looked up. He sighed, under his breath.

The stranger in the doorway did everything but carry a ten-foot sign on his chest labeled "Screwball."

There were all the signs. The tangled mop of black, curly hair straggling over the high forehead. The deep-set, blazing eyes. The cynical half-sneer of

the mouth. The untidy clothing. The excited movements of his hands, the quickened breath, the nervous blinking of the eyelids. Worst of all, the stranger carried a machine under one arm.

STANHOPE knew the type. He was not prejudiced, he was a reasonable man; but long experience had taught him that in some cases it did not pay to be overly tolerant. There are cranks and eccentrics in every field; but scientific cranks are by all odds the worst.

After all, it had been a hard day. The editor resolved to be firm.

"Good afternoon, sir. What can I do for you?"

"What can *you* do for me? Don't make me laugh! I'm going to do something for you." The smiling stranger advanced into the room.

"You're Stanhope, the editor of this rag, aren't you?"

"I am Mr. Stanhope, yes. But see here—"

"Never mind." The stranger waved the words aside with an airy gesture of his left hand as he sat down in the chair opposite the desk and deposited the shining mechanism he carried on the table. "Mr. Stanhope, my name is Volmar Clark. You know of me, no doubt?"

"Can't say that I do."

"What?" The stranger's eyebrows became two swords of accusation. "Never heard of Clark, the man who left the Institute after telling them all off for the pack of fools they were; the man who was called in to advise on the building of the Pasadena Observatory lens in spite of it all? Never heard of Clark? You're like all the other dolts; gabbling of H. G. Wells and Sir James Jeans and a few other publicity hounds and ignoring the quiet work of the scientific great under your very nose."

"Wait a minute, Mr. Clark. I'm very

busy and—”

“One is never busy in the presence of Genius. But you’ve never heard of Clark, you say? You know Einstein, don’t you? Well, forget him. In years to come, Clark will outshine Einstein as the sun outshines a penny match!”

Stanhope winced. He was as patient as the next, but he couldn’t afford to waste time any longer. This schizophrenic who referred to himself in the third person was impossible.

“You’ll have to excuse me,” Stanhope said, rising.

“Oh that’s all right. I’m not blaming you for anything,” the man called Clark announced. “It’s only that I thought you might remember me. About a year ago, when I was still naive enough to wish for earthly recognition, I did a foolish thing. I embodied my scientific thesis, rejected by the academic ignoramuses of the Institute, in a story and sent to you. I thought you might remember it; certainly it was the best thing of its kind ever written, and I don’t ever see how it could have been rejected.”

Stanhope lost his tact.

“What was the name of the story?”

“You don’t even recall the name of the most startling bit of literature ever penned? Mr. Stanhope, I am truly sorry—for you. The story was entitled *Fourth Dimensional Mirror*.”

ABRUPTLY, Stanhope recalled.

How could he ever forget? *Fourth Dimensional Mirror*! A rotten title. But the story itself was far worse than the title implied. It had been something Stanhope had really tried to forget. Sheer babbling lunacy—a rambling, incoherent tale which purported to contain a theory about mirrors being the gates of the Fourth Dimension. It had been filled with wild explanations of the laws of optics and how the eye

was connected by electric impulse with the brain so that light-waves and thought commingled to produce awareness of the Fourth Dimension. There was something about a field of force set up on the mysterious reflecting surface of a mirror, which could be physically entered by the human body. A man walking through a mirror into the Fourth Dimension was by all odds the most absurd notion Stanhope had ever encountered in all his reading of science-fiction. He had firmly rejected the tale on his usual grounds: “Every Story Scientifically Accurate.”

“I remember now,” he said. “I recall rejecting the story.”

“Why?” The word was a jet of flame.

“Why? Why? Because it was implausible, Mr. Clark. Here” Editor Stanhope picked up a copy of the magazine from his desk. “You know our by-line, our trademark, as it were. ‘Every Story Scientifically Accurate.’ I’m sorry, but your story wasn’t.”

Clark’s beady eyes flickered as he suddenly grasped the magazine and crumpled it convulsively between his fingers.

“Every Story Scientifically Accurate!” His tone was purest venom. “You call this stuff science? Robots and Martians and fungoid beings and opium-smoker’s visions? What if the so-called theories are mathematically correct? Does that make these stories accurate? They are fiction, not fact. And science is factual. How can you draw the line?”

“I haven’t time to go into that just now, Mr. Clark.”

“Of course you haven’t. Neither have I. Neither did the men at the Institute when I showed them my theories no paper. They forced me to resign. And yet they respected my pre-eminent authority in the field of optics enough to call me in on the telescopic lens job;

but they refused to believe the truth. I wrote the truth up in the form of fiction and even you couldn't swallow it as mere imagination. And yet it is true—truer than all this Martian humbug or space-flight nonsense you insist is within the pale of possibility. But I'll show you! I'll show them all! What Einstein and De Sitter hinted at, I shall reveal. Every story scientifically accurate, eh?"

Stanhope thought vaguely of running out and getting help. This man was insane. He might become violent in his megalomania; this unnatural fuss about the rejection of a story a year ago was obvious proof of his pronounced unbalance.

"What makes stories scientifically accurate?" Clark was shouting. "I ask you?"

"Proof," muttered Stanhope, trying to avoid the too-bright gaze of his demented visitor.

"Proof? Exactly. And I've brought proof." Clark pointed at the machine.

"You ask me why I didn't go to the Institute, or to higher authorities with this machine. Simple. I've spent a year working on this, a solid year! I spent twenty before that in perfecting my theory and was laughed at for my pains. So I spent one year more building my proof; my machine. Now instead of taking it to the scoffers higher up, I decided this time to start at the bottom; with you, the most insignificant of my critics. You, and your 'scientifically accurate' stories couldn't swallow my theory. Therefore you shall be the first to swallow my proof. You shall be my guinea-pig, Editor Stanhope. How would you like to see that Fourth Dimension your ignorant authors are always babbling about?"

STANHOPE was really afraid now. This madman was larger, stronger

than the slight-bodied editor, and he was obviously aroused. Stanhope must humor him, keep him talking until the art-editor or one of the stenographers happened in and could get wind of the situation. Therefore the editor tried to smile. He caught sight of his haggard face in the mirror and shuddered.

"Going to send me to the Fourth Dimension, eh?" he said. "How?"

"You read the story. 'Through the mirror, of course.'"

Stanhope wanted to be diplomatic, but his natural honesty rebelled at this. He was, first and foremost, an honest man; an honest editor. And his creed, "Every Story Scientifically Accurate" was written on his heart just as firmly as it was emblazoned on the cover of his magazine. He couldn't stomach this statement.

"Clark, be sensible. Send me through the mirror? Why that's childish fairy-tale stuff. Like Lewis Carroll's *Through the Looking-Glass*."

"Exactly," Clark answered, a smile on his pale face. "That's where I got the idea. Oh, you needn't scowl so. Lewis Carroll—what do you know about the man? He was a mathematician, writing children's books under a pseudonym. Nobody ever noticed the quiet little fellow in real life, yet *Alice in Wonderland* and *Through the Looking Glass* are perhaps the most unique literature ever written in themselves. Not only children but adults have found keen satire in their pages; and more than that, the two books are still conceded to be the most accurate descriptions of dreams ever recorded. Do you understand what I mean? Lewis Carroll, the shy, furtive little school-teacher, was one of the world's greatest psychologists. And mark you, he was a mathematician as well. He was no fool—and when he sent Alice through the mirror into the dream-

world he was basing fantasy on the most advanced and abstruse mathematical logic ever conceived. Even today there are those who link dreams with the Fourth Dimension; the mathematical symbols of each are interchangeable. Where but in dreams, or the Fourth Dimension is body and consciousness altered? Where does life take on new and varied forms of expression? I wouldn't be such a fool, if I were you."

Stanhope lost his temper for one desperate moment.

"Get down to facts," he shouted. "Where is this machine and what does it consist of? Stop talking about dreams and fairy-tales."

"That's right. The editor wants his scientifically accurate proof, doesn't he?" Clark's voice was mocking. "Very well. Here's the machine on the table."

Stanhope turned to gaze closely at the contrivance. It was a long, gleaming silver tube mounted on a pedestal base from which jutted a series of levers and buttons. Superficially, it resembled an ordinary microscope. Clark picked up the instrument, sat down on top of the desk, and cradled it in his lap. His hands unconsciously caressed it, and Stanhope watched the play of his long, slim fingers.

"Just what does this machine do?" the editor inquired.

"Just what the machine in my story did. You look through the lens, adjust the focus to correspond with your own vision—that is, the rate of speed by which light-rays impinge on your retina and are translated into electrical impulse by your brain. This sets up an electrical rhythm which in turn is acted upon by the system of angled lenses in the tube. Then you gaze through the tube at your image in a mirror and you become translated into the Fourth Di-

mension by means of electrical contact of duplicate foci. In other words, when you apply your eye to this tube, it becomes merely an extension of the tube itself; a necessary part of the machine linking your brain directly with your image. The force-field draws brain into image, and there you are."

"In the nut-house," Stanhope wanted to add, but he thought better of it as he gazed into the fanatical eyes of Volmar Clark.

"BUT how did you build this; what are the principles?" asked the editor, sparring for time. Why didn't some one come in and rescue him?

"Let us be scientific, by all means," purred Clark. "Perhaps I can explain it by questioning you. To begin with, you believe in scientific accuracy, don't you?"

Editor Stanhope nodded.

"And yet you'd say my principle of mirror-images being Fourth-Dimensional projections of three-dimensional objects is not founded on scientific fact, and is therefore absurd?"

Again Stanhope nodded.

"Very well. Let us see whether or not you can give scientific reasons for your disbelief. I say you look through this tube into the mirror and become drawn through it."

"A solid man can't enter his own reflection," Stanhope parried. "That mirror on the wall is nothing but plate glass, backed by a thin coating of mercury. It merely reflects light from the smooth, polished surface of the glass."

"Very good, my skeptical editor. Very good. And now would you mind telling me something about glass?"

"Why, surely—"

"Scientifically, what is glass? Is it a metal?"

"Well—"

"Isn't it true that glass has no crys-

talline structure? All metals have."

"Now, wait a minute."

"Is glass a liquid or a solid? What is its definite melting point?"

"I don't know that."

"True. Nobody knows.* No scientist knows, any more than he knows the exact nature of electricity, for instance. And neither you nor Einstein can discover the make-up of its molecular structure."

"Yes, I'm afraid you're right," the editor confessed.

"Of course I am. Glass is a mystery. Like electricity, man can produce it, control it within limits, and even use it in a few simple tasks which do not even begin to impinge on its possibilities. We can guess that thought is electricity, and that life is perhaps an electrical manifestation. No one has ever bothered to theorize on the mystery of plain, everyday glass; the greatest key to the secret of light. The strange substance through which we see the stars is the link between light and electricity; between seeing and being.

"And properly handled according to mathematical formulae, I say that a man can enter the peculiar molecular chaos of glass and enter through its planes into the Fourth Dimension. Man co-exists; he appears before himself in a mirror. The only reason the mirror image isn't real is because his brain is absent from it. His three-dimensional consciousness cannot penetrate a Fourth-Dimensional reflection — but my lens does that. By linking his eye to the lens to the image of his reflection, and by thus directly connecting brain to image, the electric structure of thought impinges on the mysterious planes of glass and he is drawn through."

* Glass is not liquid, not solid; not metal, not crystalline; there is no exact chemical formula for glass; its specific gravity varies from 2.4 to 5.6. —Ed.

Clark's eyes blazed.

"There's scientific accuracy for you," he challenged. "Refute me if you can. Everything I've asked about the nature of glass, and about the nature of reflection cannot be answered by science. I tell you I'm right."

"Negativism isn't proof," Stanhope replied. "That mirror over there may be all you say it is, but your machine is impossible. Have you ever tried it out?"

"I just completed it, under considerable stress. And I haven't tried it yet, thank you. I don't want to enter into a mirror. Beyond my own reflection and that of this room, I cannot dream of the strange world which inhabits the peculiar structure of ultra-dimensional light. But that's why I came to you, my editorial scoffer. You're my guinea pig, as I said. You shall look through the tube with your skeptical eye and find out the truth."

"What?" The maniac *was* convincing. Editor Stanhope felt a shudder he strove vainly to repress. For a moment the man's wild whispers had convinced him that he lived in a cosmos governed by strange laws. But it was nonsense. It had to be. Every story scientifically accurate — theory rejected.

CLARK read skepticism in the editor's face.

"Well," he challenged. "You don't believe me, so you needn't be afraid. Look into my harmless little tube. Adjust the levers until you see perfectly; until you see your reflection in the mirror. Then watch the lens-angles as they revolve, as your brain spins *into* the tube, your consciousness flows *through* it and into the mirror. Go ahead."

Stanhope began to perspire. Clark towered over him, hands twitching.

He looked as though he might spring at his throat. The white face was contorted.

"What would become of my real body if I was—drawn in?" he asked, trying to keep his voice calm, trying to stall for time.

"It would disappear, naturally. You would be real, then, in the mirror; in the strange molecular structure of the glass, which is the Fourth Dimension. We co-exist in the Third and Fourth Dimension, you know; even Einstein admits that. But we feel alive in the Third because our consciousness is tridimensional. Once that consciousness, by means of light-action on the electrical impulse we call thought, is transformed into our image, we live there. You'd disappear, into the room reflected in the mirror. What lies beyond we cannot say. But you shall find out." Clark's voice rose to a half-scream. "Look!"

He grasped the editor's shoulder and bent him forward toward the gleaming instrument. Stanhope struggled silently. The man was strong. His fingers forced—

And then there was uproar; welcome pandemonium.

The two men had come in very quietly, for all their burliness. They were efficient despite their strength. Without a word they had crept up behind Volmar Clark, and now they were upon him. Soundlessly they dragged him off the table and locked his arms behind his back. Clark gasped madly, but he was no match for the determined and capable captors. They held him firmly.

Editor Stanhope looked up. One of the men touched his hat.

"Sorry he disturbed you, sir. We've had orders to bring him in."

"What?"

"This is Volmar Clark. He's been

in our charge at the Sanatorium for the past year; ever since he finished the observatory lens job. He had a—break-down afterwards, and his relatives saw to it he was put in our care."

"Don't listen to the fools," Clark hissed. He lunged, but a quick jerk of his captors' arms brought him to a standstill.

"Usually he's very quiet. We allowed him to build his laboratory in his room at the Sanatorium and he's been quite happy building some kind of machine or other. But today he sneaked off. Luckily we traced him down here at once; he let his destination slip to the nurse. Sorry he's been a bother—but I'd appreciate it if nothing was said to the authorities. He's in a private institution, and in view of his past position, his family would be grateful for secrecy."

Stanhope nodded.

The man turned. "Come along, Mr. Clark," he said. "Back to the laboratory."

It was the cue for the maniacal scene. It was the point where Clark should have gone berserk and collapsed, to be dragged screaming from the room. By dramatic tradition it should have happened. Instead, Volmar Clark, mathematical genius and optics authority, drew himself up to full height and smiled at Editor Stanhope.

"All right," he said. "Sorry about our little interview, Stanhope. Another minute and I'd—well, never mind. Wish you'd remember what I told you, though. I've worked for a year."

With that he turned, and the two efficient-looking men escorted him from the room.

Stanhope sank into his chair behind the desk and mopped his brow. That was that. What a day!

Thank heavens, all over now. He glanced at his face in the mirror once

more. He *was* haggard. No use to resume manuscript reading; it was time to go home and rest. No use to submit his dazed brain to the test of maintaining that "Every Story Scientifically Accurate" standard. Not now.

Abruptly his eyes fell on the silver object which still stood on the desk-top. Clark's lens. He'd left it here! The guards had never noticed it. Clark hadn't either. Or had he? Had he left it here on purpose? Editor Stanhope remembered the cryptic parting words.

HE picked up the magazine once more and gazed unseeingly at the cover. "Every Story Scientifically Accurate." He smiled, wearily. Well, Clark's story wasn't scientifically accurate. Mystery or no mystery, man didn't walk through glass mirrors into new worlds. The theories didn't hold. No scientific accuracy. He rejected the idea as he would a story.

But wait a minute. That madman had been a genius, once. He was still sincere. As an editor, Stanhope admired sincerity. He wouldn't reject a story without reading it. Could he wholly reject Clark's theory without testing it? The test lay merely in looking through the lens.

When Clark was forcing him, Stanhope had been afraid—charmed by the words of the demented man. Now his fear had passed. He could look through the lens calmly, discover just what principles actuated the mechanism. Why not? Here it was.

Idly, Stanhope bent over the tube, one hand still clutching the magazine. He half-rose and squinted down the long chamber, then raised the cylinder and aimed it at his image in the mirror. He peered down. He saw nothing but cloudy gray. He remembered the lever system. His free hand casually twirled first one lever, then another. He turned

and adjusted.

Ah. There it was. His face, his body in the mirror. The room in reflection. Why, this device didn't change the image at all! Clark was mad. He adjusted focus, as he would if peering into a microscope. How clear his image in the mirror was!

No. Not so clear now. It was blurring. Getting gray again. And—his eyes hurt. A series of flickering, brilliant lights seemed to run from the mirror up through the tube into his eyes; into the brain behind them. His eyes felt *glued* to the lens; his *brain* felt glued. He no longer had eyes. His brain was a part of the lens.

"*Eyes and brain and tube all part of the machinery,*" Clark had said. But Clark was mad. Then he must be mad, imagining this!

The brilliant rays were brighter than ultra-violet. They moved *circularly* and Stanhope saw in *circles*. It was impossible, but he knew it was like that. The tube was filled with spinning lenses, all moving at queer angles, distorting the image he gazed at, sending blinding light that was not light, but electricity, into his brain. He couldn't look away, he couldn't *think* away. He felt one with the image beyond; felt himself slide into it.

For one climactic, dreadful instant he had the peculiar sensation of looking *out* from his eyes instead of *in*; the light-waves seemed to be reversed, flowing from his retina instead of flowing toward it. He felt as though he were in the bottom of the tube, looking up, instead of down. And then the image in the mirror grew brighter and brighter, and larger and larger, and Stanhope felt his body swim in circles of light.

With a gasp, he crumpled to the floor in the gray room.

He opened his eyes in a moment. He blinked rapidly. For a single gruesome

moment he thought he had been blinded. Then the brilliant mist passed, and he could see.

He rose from the floor, clutching the magazine. He breathed deeply. That damnable machine! Clark *had* done something with it after all; he had made a hypnotizing agent out of it. The bright reflecting surface of the mirror, viewed through twirling mirrors and lenses in the tube, acted as a focal point in the hypnotic process. That was what had happened. He'd hypnotized himself. Yes, glass and mirrors had strange properties, and light became electrical thought in the brain all right. But that

Fourth-Dimensional theory wasn't scientifically accurate after all.

Stanhope laughed. He'd looked through the tube, and he hadn't entered the mirror and the reflection of the room in the Fourth Dimension. There was the mirror now, still in front of him. It reflected the room of his office, just as it always had.

Editor Stanhope glanced idly down at the magazine he still held in his hand. With wild panic surging up in his breast, he read the words on the cover. Strange words, words that could not be safe in reflection, words that bit into his brain.

STAYUOCCO YLLADITIMHC2 YROT2 YRREV3

"Short Years And Long"

By J. F. Turner

IT IS an interesting fact that in our solar system a "year" ranges from less than three months to 248 times the earth's twelve-month period. Mercury, smallest of the nine major or primary planets of the solar family, is nearest to the sun and accordingly has the shortest year, a period of revolution of only 88 days. Next beyond Mercury is bright shining Venus, traveling in an orbit which gives it a year of 225 days. Following in the order of remoteness from the sun is this old, spinning globe of ours, and still more distant by many millions of miles the red glowing sphere we know as Mars. The latter planet completes its orbital journey in 687 days.

Strung out even farther into limitless space and with respect to solar distance are: gigantic Jupiter with its nine moons, taking close to twelve years to circumnavigate the sun; ringed Saturn, also possessing nine satellites, and covering the solar swing in 29 years; Uranus, performing a complete turn about the sunstar once in 84 years, and Neptune, having a period of revolution equal to 165 of the earth's years.

Finally, there is far flung Pluto, discovered as recently as 1930 through the use of photography. The earth's distance from the sun is some 92,900,000 miles (one astronomical unit), but Pluto exceeds this distance by about forty times. The orbit of this outermost member of the solar family is one of extreme vastness, and to describe its planetary path around the sun is a little matter which occupies Pluto for 248 years.

WIVES IN DUPLICATE

AGHAST, Ray Lattimer saw two women in the televisior, and BOTH of them were identical—BOTH his wife!

**By
DON
WILCOX**

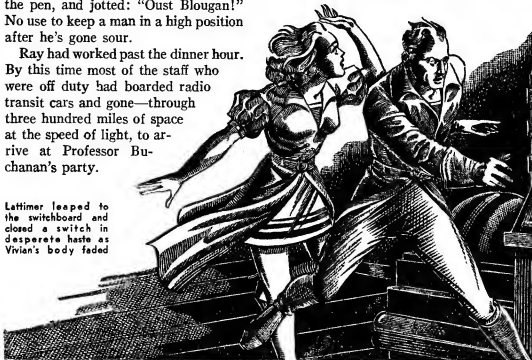
RAY LATTIMER, the youthful president of Radio Transit, Inc., scowled as he thumbed through the papers on his desk. With a disgusted groan that would have sounded like an approaching thunderstorm over an amplifier, he took up his desk pen and wrote a memorandum: "Bring Blougan to time."

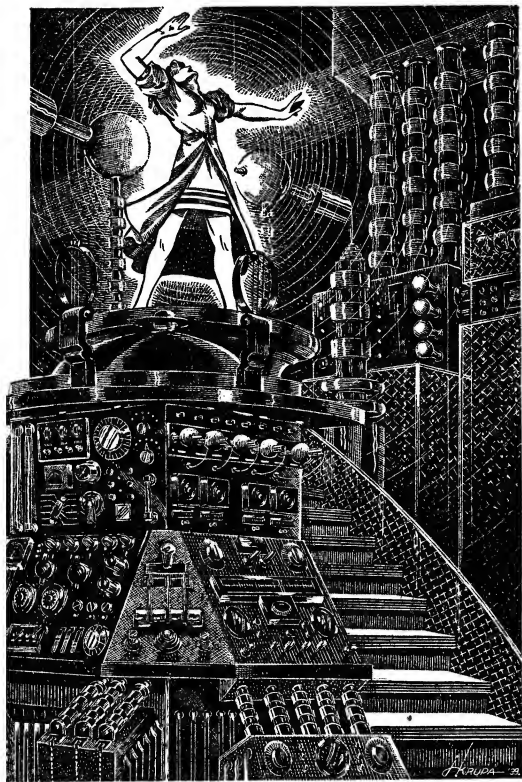
His scowl deepened as he worked over the papers. With an angry snort, this time a crashing thunderbolt, he crumpled the first memorandum, seized the pen, and jotted: "Oust Blougan!" No use to keep a man in a high position after he's gone sour.

Ray had worked past the dinner hour. By this time most of the staff who were off duty had boarded radio transit cars and gone—through three hundred miles of space at the speed of light, to arrive at Professor Buchanan's party.

Lattimer leaped to the switchboard and closed a switch in desperate haste as Vivian's body faded

All employees of Radio Transit, Inc., had been invited. The professor was celebrating the first anniversary of the wonder of the age—transportation by radio! For a full year the famous Buchanan-Lattimer invention had been delivering passengers and freight through space instantaneously and, to Ray's great pride, without a single mishap. Unless certain sly maneuvers charged to Bart Blougan could be called mishaps. Blougan was a pain in everyone's neck, even if he was a director.





A buzzer sounded. Ray touched a button and looked up from his papers to the televisor.

"Ray, dear—" Vivian, his young bride, was on the screen before him in full colors. She spoke softly. "Have you forgotten our engagement?"

He paused for an instant to admire her beauty. The abbreviated lines of her party costume were becoming to her shapely body.

"I'm sorry, Vivian," he said apologetically, "but you'd better go on to the party without me. I have a bad deal on my hands and I'll be stuck here for another thirty minutes. The report I've been waiting for finally came in, but it's a complete washout."

"Bart Blougan's again, I suppose."

"As usual. I'm going to see that he's ousted at the next meeting—which is likely to be tonight after the party. If so, I've got to be ready—with an ultimatum for Blougan."

"You know my sentiments," she said, laughing. He nodded. They had tried to treat Bart Blougan as a joke; but it was really no joking matter. The cunning efforts of the middle-aged, wolfish director to flirt with Vivian had become a constant annoyance. He would linger about on one pretext or another as if his presence were a favor to her. But all of Vivian's worries were trifles as long as her broad-shouldered, masterful husband was within a few steps.

"You hurry on to Professor Buchanan's and give him my apologies," Ray said. "And don't forget to call back when you arrive."

Vivian blew him a kiss and the televisor snapped off.

DON'T forget to call back. That little ritual had become a habit back in the days when Ray shuddered every time Vivian boarded radio transit. It was an instinctive distrust of allow-

ing the human body to be resolved into radio waves, sent through space, and reorganized into human form at the receiver. Even after a year of faultless operation, radio transit to Ray's inventive mind was still full of unknown perils.

He stepped outside his office into the balcony that overlooked the vast, white-walled hall of power with its familiar smells and sounds of smooth humming machinery. The blur of steel cars spinning down the spiral tracks into the mouth of the transmitter told him the operator was on his job. Faithful Dwight. He had never made an error.

A few minutes later the televisor in Ray's office buzzed, and the young president of Radio Transit, Inc., knew that his wife had arrived safely. He touched the button. Vivian was again before him. Back of her low voice the music and laughter of the party were faintly audible.

"Everyone's here, Ray, and the party's in full swing," she said. "I hope you can come soon."

"I'd better," he laughed, "or Bart Blougan will be beating my time."

"Awfully worried, aren't you?" she teased; then with a turn of thought, "Oh, that reminds me. Blougan hasn't come yet. I noticed him hanging around there in the station a moment ago as I was boarding."

Buzz. Someone else was ringing for Ray's televisor.

"I'll see you soon," said Ray. "I have another call waiting, but I'll see that no one detains me."

Vivian blew him another kiss and snapped off.

As he reached to the television button to cut in the new caller, he had not the slightest premonition that anything unusual was about to befall him. The figure appeared on the screen. It was Vivian again. Her reappearance

shocked him. Before he had time to think *why* it shocked him, she began to speak. There was nothing unnatural in her voice; still, it expressed such a change in mood from her previous conversation that he gulped in surprise.

"Ray, there's been a mistake. I've come to the wrong place. I'm here at Space Ship Center. I told Dwight distinctly that I wanted to go to Buchanan's and here he's sent me eleven hundred miles in the wrong direction."

"You're — *where*?" Ray had heard but he could not comprehend.

"At Space Ship Center, here at the Union Station. I just thought I'd let you know I—"

"But you just got through telling me the party was in full sway—"

"No, Ray, I didn't say anything about the party—"

"But you just called me from there."

"How could I? I haven't been there. Dwight routed me the wrong way and I—"

"Wait a minute!" Ray was mentally jolted as if his universe had suddenly jumped out from under him. As he glared from the screen he saw that Vivian was not calling from the same room as before. There were no sounds of party music. This was a private television booth. What had happened? He could not believe that his imagination had simply played a trick on him. Could it be that—

"Don't look so blank," Vivian was saying. "It isn't as serious as all that. I'll come right back by radio and we'll go on to the party together."

"Wait, Vivian. Wait till I check the controls. Something's haywire." He tried to fight off his dazed feelings. "Probably just a slip-up. Give me your number there and I'll call you back as soon as I okay things."

He took the number down as she snapped off.

ANY of Ray Lattimer's friends knew that by nature he was more an inventor than an executive. He had to force himself to make quick decisions. But the present enigma might well have caught anyone without a ready course of action. The implications were coming into the clear, but it was hard to accept them. Unless his senses were playing tricks on him, Vivian Lattimer, his one and only wife, was in two places at once.

Appalled by the thought of an unspeakable technological possibility, he snatched up the telephone and dialed for Dwight. No one answered. He ran out of the office, through the long sweep of balcony to the control room at the passenger platform. No operator was there. A few passengers were strolling around, waiting for service, but no one was at the controls. Never had such a thing happened before—not since Ray's first official command: that no one should touch the controls except his own certified operators.

"Dwight! Dwight!"

No one answered.

"Dwight!" In his frenzy Ray had forgotten to make use of the telegage. The ticket agent reported the call, however, and in another moment the clattering voice of the telegage sounded throughout the plant.

"Dwight Richardson wanted at the control room. President Lattimer calling Dwight Richardson."

The swift three minutes of telegaging and searching gave Ray's suspicions time to shoot out on several sharp tangents, all of which gravitated toward the name of Bart Blougan. Only a few minutes ago, when Vivian left for the party, he had been here. Now it was apparent he was not here. Had the sly faced, nosy director pulled a fast one?

One of Blougan's malpractices had been originally responsible for Ray's

demand for certified operators. For in the early days of Radio Transit, Inc., Blougan had tampered with the controls. At first for his own amusement. Then, discovering in this new plaything a rich vein of private income, he had watched for his chances to engage in the unauthorized practice of "duplicating"—that is, multiplying the goods that went through, by switching on additional receivers. *

How much of this Blougan got away with Ray never knew; but once, at least, a case of gems of great value was involved. As the case had rolled into the transmitter to be radioed to Buchanan's station, Ray chanced to see Blougan step to the controls and touch two switches.

To be sure he wasn't misjudging Blougan, Ray had traced the results. He found that the jewels had arrived at two different stations simultaneously, just as he had expected. One box reached the addressee; the other Blougan sent for. A very neat trick for converting electrical energy into new tangible wealth. But Ray, already confronted by a wall of legal restrictions, clamped a tight lid on this practice. His franchise was for transportation, not manufacturing.

Blougan took the prohibition as a

* This process of "duplicating" is made possible through a strange paradox, which at first glance seems impossible, since the laws of matter and energy preclude the possibility of producing matter from nothing. However, this is not the case in the radio transmitter used by Radio Transit. Objects to be sent by radio are resolved into energy and transmitted as such, in a definite energy pattern, recreated into matter by the receiver. However, this entails a loss of energy by widespread broadcast, and a subsequent necessary addition of energy at the receiver, from generators for that purpose. Exactly enough energy is sapped from the storage cells by the energy pattern received by the receiver, and reconstruction is duplicated to the last molecule exactly as broadcast. Thus, with a duplication of receivers, acting on the same energy pattern, it is possible to create more than one object, exactly identical.—Ed.

personal slap. He writhed. He brooded. He avoided speaking to Ray. At the directors' meetings he was a sullen child. Before Vivian he employed different tactics, trying to wedge his way into her confidence, sounding her out on matters of sentiment, feeding her taffy. It all looked very bad as Ray now turned it over in his mind.

Where might Blougan be at this moment? The switches in the control room were set to send passengers to Space Ship Center. Had he gone there? Perhaps Dwight would know, if he could be found—

DWIGHT RICHARDSON, lying at the foot of a fire escape tunnel near a side entrance, was aroused by the clattering voice of the telepage. He took an elevator up to the control room level. He strode into Ray's presence a sorry looking figure. His head was bleeding; his green uniform was smeared.

He read the question in Ray's eyes. "I'm sorry, Mr. Lattimer. I realize it is a breach of orders to leave the controls. This—" he pointed to his gashed scalp—"took me without warning. I saw him enter but I didn't realize—"

"Blougan?" Ray roared.

"Yes," said the pale operator. "He holds a personal enmity toward me, but I can't say what inspired him to cool me." A startled expression came into his face. "Seems to come to me now that I had a passenger on—"

"Get that head bandaged, Dwight, before you pass out again. I'll ring for an emergency operator."

Ray did so, then rushed back to his office. The facts were out of the fog now, and yet he could not make up his mind to accept them. Somehow they floored him. His mind was still grasping for a straw of escape. Dialing for Professor Buchanan's, he called for

Mrs. Lattimer. A moment of tense waiting filled with wishful thinking. If that first call from Vivian on her arrival at the party could only have been a hallucination—

A shadow cut across the televisior and Vivian reappeared, fresh and vivacious. "What is it, dear?" Echoes of the party accompanied her voice.

"Why—ah—nothing. Just wanted to make sure you were there all right. I guess I was a little absent minded when you called before."

"Of course I'm here. Where else would I be?" she laughed.

"Of course, dear."

"Aren't you coming soon?"

"Well, I—"

Vivian read trouble in her husband's manner. "Something's wrong, Ray. What is it?"

"Nothing. I—just forget I called. Goodbye." He snapped off, snatched up the number he had written a few minutes before, and dialed for Space Ship Center.

The televisior went on. There was the private booth again, occupied by Vivian. Ray was convinced. The bald fact was that there were two Vivians instead of one. A certain troublemaker had sent channelized radio waves in two directions and had switched on two receivers to catch them.

Two identical Mrs. Lattimers. Duplicate wives. Neither knew of the other's existence—yet!

"Did you find anything wrong, Ray?" the anxious girl in the televisior was asking.

"Plenty," said her perspiring husband with a gasp.

"We're going to be very late for the party, dear. Don't you think I'd better call and explain?"

"No, by all means, don't!" Ray was floundering. He knew she was growing impatient. She was unaware of im-

pending trouble. "Just a minute—" He called the control room to be sure the emergency operator was on the job. "Listen, Vivian, Blougan's got something in the air and it looks bad. He may be there looking for you. Keep out of his way and come on back here by radio as quick as you can. I'll be waiting."

THE peril of the situation now descended like a tornado upon Ray's mind. That scoundrel had planned for this night. It was purely a break that Vivian had happened to hide away in a television booth before he intercepted her. What were his intentions? To make a break for another world? Ray's perspiring fingers dialed Space Ship Center again.

"Space Lines Information Desk, please . . . Hello. When is the next space ship scheduled to leave?"

"For what points, please?"

"Any points."

"The next departure is for Venus in fifty minutes."

"Can you inform me whether Barton F. Blougan has made any reservations? This is Ray Lattimer of Radio Transit inquiring."

The inventor's famous name was like magic. The confidential information was at once secured. "Mr. Blougan has reserved two compartments, Mr. Lattimer . . . No, we find that his party has not boarded yet."

"Thank you."

It was clear now that the trickster's intentions were sinister in the extreme. In less than an hour he expected to be off for Venus with a beautiful dark eyed Vivian, thinking that Ray, gayly dancing with another Vivian at the party, would never know what had happened. A sweet set-up.

Ray dialed recklessly. The private television booth at Union Station did

not answer. He tried again and again. Vivian was no longer there. He got in touch with the officials of the Venus-bound ship. They had not seen her. Very well. She must have gotten aboard radio transit to return momentarily. He would go to the passenger platform and wait. If she did not arrive shortly he would go to Space Ship Center after her.

He paced the platform impatiently.

He would have been far more impatient had he known that Bart Blougan had caught one Vivian Lattimer by the hand the moment she emerged from the television booth. Leading her to a secluded corner of the station lobby, he plunged into an exposition of his sensational scheme. It was so startling that her wits were at first paralyzed. If he was telling the truth, another Vivian existed. Two of her had been created, just as two cases of gems had once been created out of the sending of one. One Vivian for Ray, the other for himself. She would go merrily to Venus with him and never be missed. In less than an hour they would be off.

The horrified girl would have shrieked but for the gleam of desperation in Bart Blougan's eye. It was the height of absurdity that this silly, sullen, middle-aged male should concoct such a plan and think that she might fall for it. Her life and Ray's were woven together. She would fight to death before anyone could take her away from him.

But there was Blougan's dangerous manner. She was in a tight spot and she knew it. His plans had been carefully laid. He expected them to go through. Her only chance was to suppress her rising anger and rely on her wits. If she could just scheme to get back to her waiting husband—

RAY was tearing his hair. His shoulders were tense, his fingers were

clenched, as he paced the platform. He looked at his watch. Still forty minutes. There was really no pressure of time yet; it was simply this idle waiting that burned him. The damned suspense. He had told Vivian he would wait here. Well, he couldn't hold out any longer. He would go and find her.

"Space Ship Center!" he blurted to the emergency operator as he stepped into a transit car. Then a familiar voice detained him.

"Ray! Wait for me!" Vivian was hurrying toward him. She had just arrived by radio. He looked at her searchingly, caught her up in his arms.

"Gosh, you had me worried," he gasped. "I was afraid—" The look of surprise that came into her face caused him to stop short. "Where'd you come from?"

"The party, of course. I couldn't stay another minute after I saw you were so worried. What has happened, Ray?"

His expression was puzzling as his gray eyes gazed at her. He glanced at his watch, returned it to his pocket slowly, regained his cool manner.

"We'll walk the balcony," he said. "I've got lots of questions for you, and I want you to think fast."

"Go ahead." Her eyes were alert.

"You remember Blougan's case of precious stones?"

"Of course."

"You realize that *anything* could be duplicated by radio transit the same way—simply by throwing a couple of switches?"

"Certainly."

"Even persons?"

Vivian looked up at him curiously and nodded.

"If *you* should be duplicated, Vivian, so that there were *two* of you, what would you do about it?"

The question struck Vivian as hu-

morous, and her eyes fluttered with mischief. "I'd insist that you be duplicated too, so that there would be a husband apiece for each of me."

Ray bit his tongue. "Let me carry the supposition farther. Suppose you found yourself in Space Ship Center and Bart Blougan accosted you—purely supposition on my part, you understand—and he convinced you that you had been duplicated. Furthermore, he had plans laid to cart you off to Venus on a space ship, assuring you that you would never be missed. Would you give his proposition a second thought?"

"Ray Lattimer, don't insult me," came the instant answer.

"All right. Now imagine he threatened you, told you to keep your mouth shut and come along *or else*. What would you do?"

"How much time do I have?"

"Less than an hour."

"What time of day?"

"Now. Everything just as it is this evening. Your duplicate has gone to a party at Buchanan's. I'm still here at work—"

A touch of fright came into the girl's face. "Ray! Are you trying to tell me—"

"Think fast. What would you say? What would your first impulse be?"

"In any tough spot my first impulse is always the same—to come to you the quickest way."

Ray glanced back toward the station platform. No one was in sight. "Go ahead. How would you manage it under the conditions I've given you?"

"Well," her face grew tense as she visualized the menacing situation, "my only chance would be to pretend to fall for the scheme. Tell him I'm all for it, and always had a secret yen for an escape to Venus. If I could get him coming my way I'd have a fighting chance to handle the situation."

"How?"

"Well, I'd say, 'Bart, why don't we make a good thing out of this while we're at it. I know where Ray keeps his designs of radio transit. He's gone to the party by now. Let's radio back to headquarters and get them. It will only take ten minutes or less, and those designs will certainly be valuable when we get to Venus.'"

"Would he fall for that?"

"A chance to be boss of radio transit on Venus? Ray, do you know how jealous he is of you?"

"You think you could get him to come back with you after those designs?"

"Yes," said Vivian confidently. "I might have trouble carrying on my plan from there, but here's the chance I'd gamble on. As we arrived here, I would lead him directly to that farthest corridor, the dark one, to the supply closet. You know I carry a key and that lock is solid, and if you didn't show up—"

VIVIAN stopped short, noticing that her husband's eyes were fixed intently upon something in the distance, beyond the balcony. At first she saw only Dwight Richardson, his uniformed back toward them. His head was bandaged. He was standing half bent, as if he too saw something in the distance that had aroused his curiosity. Then her eyes caught the two dim figures at the far end of the promenade slipping into the shadowy corridor.

"Quick, Vivian!" Ray's firm hand caught hers and to her utter amazement they went flying across to the rear hallway and down toward the darkened end. "It's crazy but it's worth a try," Ray hissed as they ran. Cautiously they rounded the corner.

"I don't get it," she gasped.

"You will, or I miss my guess." They reached their destination, the deeply

indented doorway of the supply closet. "After all," he whispered, "since you *are* identical, your minds are sure to work along the same lines."

"You mean—"

"S-s-s-sh!"

Only a few seconds of silence before the footsteps began to whisper in the distance. Then there were low voices—Blougan's and—yes, Vivian's! The girl at Ray's side trembled as she heard. It was chilling, uncanny—her own voice drawing closer and closer; her own answers fending off Blougan's menacing suspicions; her own trap ready to spring—and yet here she stood silently, motionless, concealed against the wall as if bound apart from herself, watching herself approach this crisis.

The voices were only a few feet away now. Blougan was muttering uneasily. He stopped short.

"This is the door," came Vivian's voice.

"Yeah?" Blougan quavered. "How do I know but what someone's hiding in that doorway?"

Ray waited no longer. He did not pounce, he simply stepped forth and said, "Feeling guilty, Blougan?"

The corridor lights flashed on at the same instant, in time to show Blougan's right hand plunging for a gun. Ray's muscular body leaped into action.

Three spectators now witnessed the swift combat. The newcomer was Dwight Richardson, whose suspicions had brought him into the corridor in time to flash on the lights. He divided his attention between the combatants and the two female spectators. He seemed to be seeing double. The flying fists were dizzying enough, but to see two figures of Mrs. Lattimer fluttering around, both of them cheering for the same man, crying the same words, occasionally clutching each other's hands in their excitement—this was too

much for him. It was disquieting to his world of order and precision. For something to do, he bent down and picked up the gun which, after all, had just as well be in his pocket.

Shortly the violent Blougan was quiet on the floor, and his broad shouldered opponent was straightening up and brushing the hair out of his eyes.

THEN came a strange moment. Perfect silence, and yet the atmosphere was charged with emotion. Dwight Richardson looked on in bewilderment. For the life of him he couldn't tell which of these gorgeous females was Mrs. Lattimer and which was her twin sister; and to his utter astonishment he saw that President Lattimer himself was in the same dilemma. At least that masterful executive was looking from one to the other of them in the most questioning manner; Dwight had never seen him look helpless before, but he was plainly dumbfounded now. And most curious of all, it was as obvious as could be that both women were dying to throw their arms around their hero and kiss him, yet they both held back—as if they themselves didn't know which was his wife. It was too much for Dwight.

Once they looked at each other and broke into embarrassed smiles; then their faces grew serious and they seemed to be thinking deep thoughts. President Lattimer seemed the more ill at ease because of Dwight's presence; so the operator said, "I'm ready to go back on duty now, Mr. Lattimer."

His words seemed to relieve the situation. "Yes, do, please," Lattimer answered. Then with a glance at the prone figure on the floor, "When this snake wakes up, tell him I'm granting him free passage to Space Ship Center."

"Yes, Mr. Lattimer." Dwight turned

and started back to the control room.

"Oh, Dwight—"

The operator whirled about, his normal dignity badly shattered. Both these girls had spoken to him, almost in unison. Both had started toward him, as if they were about to say something of great importance. It was uncanny.

Blougan groaned and opened his eyes. As they turned to look at him, Lattimer caught the nearest one by the hand and said, with a toss of the head, "Go get the designs for radio transit."

Both girls saw the decisive look in their husband's face. What he had in mind, neither of them knew. But in the past tense moments their own bold wits had been working furiously. Brief as the scene had been that had held them face to face, both were convinced of the impossibility of even a temporary triangular group. In the conversation of silence they had read Ray's anguish; each time either had started to speak, similar words were on the lips of the other; their personalities being identical, one of them was superfluous. Had their characters been less ideal, they might have been at each other's throats for the right to go on sharing life with Ray. Instead, each was aware that a moment of sacrifice was at hand.

Now that Ray had given a direction to one of them and she had started to comply, the other seized the opportunity to follow out her own plan. She hurried to catch up with Dwight, who had turned the corner toward the control room.

"Dwight, there's something you've got to do for me—"

Ray heard no more. He and Blougan were the only occupants of the corridor now, and a moment later there was only Blougan.

Ray ran to his office, picked up a few effects, and hurried out again. He had lost no time. Vivian—the one who had

gone for the designs—would be returning by this time, he believed; the other Vivian would be at the control room with Dwight; Blougan would still be in the farthest corridor sitting in a daze; and the emergency operator would have gone off duty.

AS Ray emerged from his office he saw at once that one of his calculations had gone astray. Blougan, whether in a daze or not, was in a radio transit car, spiralling toward the transmitter; now he was gone. Where? Ray would not know until he reached the control room and saw how the switches were set.

Then came a second surprise. The emergency operator, waiting for an elevator, spoke to him. "Mr. Lattimer, your wife said you had ordered me to go off duty. She said that Dwight would be in shortly, and in the meantime she would—"

Ray did not wait to hear how she had sidetracked Dwight. She was alone at the controls and that was enough to tell him she had made a dangerous decision. He bounded through the promenade in time to see one of the girls board a transit car and push off. The other, racing toward her, waving the package of designs frantically, was screaming to her to stop.

The terror of her voice told him what was about to happen. He flew into the control room. His eyes caught a row of switches—all open. Not a single receiver would catch the waves that were about to go forth. They would be lost in space. Already Blougan had unwittingly made his final exit.

Ray leaped across the room with an outstretched arm, caught a switch, jammed it closed. A glimpse into the swirling spiral told him that there had been not a second to spare. As the full scare of what had nearly happened came

over him, he slumped to a chair weakly.

Vivian's frightened face was at his shoulder. "You—you saved her?" she sobbed.

Ray nodded. "She is safe at one of our stations—" He glanced at the switches. "Space Ship Center."

The girl cried with tearful joy, "Oh, Ray, I knew you wouldn't let her do it."

"But how did you know what she was planning?"

Her head turned away and he realized that his question required no answer. Obviously both girls had had the same plan for making the supreme sacrifice when he had intercepted one with his order for the designs.

Dwight entered briskly and addressed Vivian in a courteous manner, "I'm sorry, Mrs. Lattimer, but I failed to find your coat." He suddenly stiffened in surprise. "Where's the emergency operator? Has he been officially dismissed, Mr. Lattimer?"

"Yes," Ray lied. "I took over, but I'm turning it back to you now. Please

deliver Mrs. Lattimer to Buchanan's at once. Then I'll have another order for you—a very special one—concerning myself." There was strong decision in Ray's tone that made faithful employees like Dwight ready to obey, and devoted wives like Vivian ready to trust.

Five minutes later a television conversation between Buchanan's and Space Ship Center assured all parties involved that Ray Lattimer's plan was off to a successful start.

Both Vivians were shocked to hear what Ray had seen—Blougan inadvertently stumbling into a death trap; both were rejoicing that they had not taken that exit from happiness.

Several of the guests at Professor Buchanan's party enjoyed looking through the designs of radio transit which President Lattimer laid before them, while his wife looked on radiantly; while in a space ship rocketing toward Venus, another Ray and Vivian lolled in their compartment, chatting over what fun it would be to find places for themselves on a new planet.



Wha'd'ya mean, twenty-four dollars for this whole island? Don't hand us that stuff, Mister!

THE OBSERVATORY by THE Editor

(Continued from page 5)

by the collapse of the glass tube, but had instead crushed in the copper wall.

With pressure such as this, no ordinary ship could retain a hollow space, but would be compressed to solidity and sink to the bottom. Also, any porous matter, such as wood, would have all its cells smashed, and impregnated with water under the pressure.

IF, by some unknown power, all the phenomena of the universe were to become a thousand times slower in action, we would have no means of detecting the change. Yet, every hour recorded by our watches would be a thousand times longer than hours had previously been, and we would live a thousand times as long as we do now, without being aware of the fact. That's relativity. Do you understand it *now*?

WE owe our lives to the common earthworm! By boring, perforating, and loosening the soil, and rendering it pervious to rains and the fibers of plants, by drawing straws and stalks into the soil, and most of all by throwing up such infinite numbers of lumps of earth, the worm is the prime promoter of the growth of vegetation. Without worms, the earth would soon become cold, hard-bound, and void of fermentation, and consequently sterile.

NOT to be outdone, the birds pipe up with the same claim. Experts have said that six to ten years without birds would suffice to bring our whole system of animate nature to an inglorious end—a vast hecatomb of insects—devouring and smothering one another.

IF you haven't seen the July issue of AMAZING STORIES' companion magazine, FANTASTIC ADVENTURES, containing Edgar Rice Burroughs' latest novel, you'd better act fast. All available copies are disappearing from the stands,

and from all indications Burroughs has scored a new triumph in "The Scientists Revolt," something new in Burroughs fantasies.

SCIENCE fiction readers will be treated to something absolutely new in science fiction in the September issue of FANTASTIC ADVENTURES. We predict it will be the sensation of the year.

ROBERT MOORE WILLIAMS, who is rapidly becoming one of the most prolific writers of science fiction, called on us the other day, to discuss a plot. It is these discussions that have resulted in the grand stories Mr. Williams has been turning out recently, and whereas in 1938 we were forced to reject 100% of Mr. Williams' work, this year we have been able to accept almost all of the stories submitted to us.

He gives us an interesting sidelight on writing, when he says that even in one definite field, such as science fiction, the requirements of each magazine are so vastly different that it is absolutely necessary to "slant" specifically for each magazine. Naturally we are glad to have Mr. Williams catching our "slant" so excellently in the past few months.

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We'd be fools not to stowaway, I tell you.
Haven't you heard what the moon's made of?

THIS column has received rating by the readers as the most popular department in the magazine. Your editor certainly appreciates knowing that, and it rather places a heavy burden on him to maintain that reputation. In that connection, how about telling us just what you think of this column and what items you like best, or what could be done to improve it still further. Next in rating is Discussions, and the part played by the editor in answering letters seems to indicate why both these features are liked. It is the personal touch. But what else could you expect from a "fan"? And your editor is definitely that.

WHICH leads us up to a new bit of friendly policy we are inaugurating with this issue. We will give away, each month, the original illustrations used in AMAZING STORIES and in addition, the cover paintings, both front and back. Readers, here is your chance to get something really great for your collections. Elsewhere in this issue you'll find complete details on how to get these illustrations.

MYSTERY of the



There came a sudden ominous crackling, and a thunderous roar and Korloff crumpled to the floor

COLLAPSING SKYSCRAPERS



By
HARL VINCENT

CHAPTER I

This Is Murder, Not Suicide!

FORTUNE Wiped Out. Jeremiah Q. Collins a Suicide," the headlines had read in heavy black type. The words danced painfully in John Rothery's consciousness as he stepped listlessly from the elevator at the fifty-fourth floor and went with lagging steps toward his laboratory-office.

At the door he paused and gloomily regarded the neat black and gold inscription on its glass panel. "High Frequency Laboratory. Collins and Rothery, Engineers." That was all. Rothery had faced the block-lettered words on hundreds of previous mornings without giving them more than passing thought. Now they disturbed and oppressed him. He clutched his morning

DRIVEN to fury by his father's suicide, Collins vanished. New York's skyscrapers rocked, and Rothery sought the answer.

paper tightly and strode through into the outer office.

Miss Hennessey, laboratory assistant and secretary supreme, raised her bright head from over the typewriter and turned to gaze solemnly at him when he entered. She looked as if she might have been crying.

"Good morning," Rothery greeted her abstractedly. "Collins come in yet?"

"Morning, Mr. Rothery. No, he hasn't."

Rothery's eyes dropped to the paper he still held crumpled in his fist. "You've seen this, I suppose?"

"Yes, oh yes!" The girl's customary reserve broke down. "His father—oh, what does it mean? Is it true—all of it?"

"Afraid so—and more." Rothery dropped heavily into his chair and stared out the window over the rooftops, some low, some high, that separated them from Central Park. "I phoned Pete half an hour ago. Didn't sound like him at all—strained and unnatural. But he said he'd be in later."

"What—what do you suppose it will do to him?" Miss Hennessey faltered.

Looking at her with dull eyes, Rothery noted her flush and the fear in her wide gaze. It was patent to him that her interest in Pete Collins was far deeper than that of employee for employer. A twinge of something like regret that this should be so assailed him.

"Afraid it'll break him up badly. He felt very strongly for the old man, even though they disagreed on many things. They were very close."

"And—and Pete was so proud of him."

Rothery noted vaguely the "Pete"—not the usual "Mr. Collins" now. "More than that," he replied. "For several years he has been nursing increasing bitterness against the combine

his father was fighting. Now—they've won. And the old man lost and is gone."

"Gone, yes," an unrecognizable voice answered from the door, which had opened noiselessly. "And they killed him. More surely, more brutally than any out-and-out murderers might have."

UNSHAVEN, uncombed, his hat awry on his head, Collins walked stiff-leggedly across the room and flung himself into his accustomed chair, sprawling and suddenly limp. He stared unseeingly and there was a set to his jaw and a tightening of the muscles around his mouth that was not good to see.

"Want to tell us about it?" his partner asked gently. "Or had you rather be alone? Miss Hennessey and I have plenty we can do in the laboratory."

"No, no. Stay here a few minutes. Both of you. I'll talk. I *want* to talk. I'll bust if I don't."

Miss Hennessey was white now and her fingers twisted nervously at a scrap of handkerchief. She looked steadily at Rothery, avoiding the hurt-dog look in Collins's eyes.

Rothery blinked and tried to look away but could not. Something in the girl's fearful stare fascinated him, sent a shiver of foreboding slithering down his spine. She was looking *through* him, not at him but beyond and into some ominous, ghastly future. The tension in the room was a tangible thing, tautening the nerves like violin strings, sending little ripples of aimless tinglings wandering over Rothery's skin. It was an uncanny feeling.

The tension snapped. Suddenly Collins became voluble.

"Yes, it was murder," he croaked. "Cold-blooded murder, after years of exquisite torture. They crucified him,

watched him writhe and suffer, then finally die. They?—I mean *he*. He—Victor Honeyford did it. He ruined dad as he has hundreds of others, even to widows and orphans. And then he gloated over him. Damn Vic Honeyford! I'll get him for this if it's the last act of my life."

Collins's voice rose on an almost hysterical note. He tossed his hat into a corner and ran his fingers shakily through his tousled black mop. His eyes were wild, shot with red.

"Easy, old man," Rothery ventured in what he thought were soothing tones.

"Easy, hell! I'll get him, I tell you!" Collins banged his fist on the desk and was on his feet in a bound. Restlessly he paced, darkly silent for a moment. Then: "You'll have to move," he said regretfully. "I'm through here—for a while. More important things to do."

"Move?" Rothery exclaimed blankly. "Why?"

"Because," said his partner tensely. "Because I intend to destroy this building. This and others—the T. O. A. building, the Air Power, Empire State—oh—"

"They're all insured," suggested Miss Hennessey, regarding him as a mother does a fractious child. "*That* wouldn't be getting even with Honeyford."

Collins chortled gleefully. "The policies don't cover what's going to happen to *these* buildings," he averred. "I'll be getting even, all right. You two just sit by and wait—and watch. But you must move from the R. C. A. building. It'll be one of the first to go."

"Okay, we'll move," Rothery told him placatingly. "Meanwhile, why not shoot down to the barber shop and get fixed up. Then go home and get some sleep."

Collins glared savagely at his friend

and partner. Then the hard lines at the corners of his mouth softened. "Right," he agreed. "I was going anyway. But don't forget. Move and move quickly. Somewhere uptown, say in the eighties. I'll be seeing you after it's all over."

He arose jerkily and lurched toward the door, not stopping to pick up his hat. His long arms flopped loosely at his sides. But his chin was up.

"Mr. Collins," Miss Hennessey called softly, pleadingly. "Wait."

Young Collins wheeled and his eyes flashed with the fires of madness. "Don't either of you try to stop me," he warned. "My mind's made up. And *move*. You hear?"

"Now listen—" Rothery began. But the slam of the door cut him short.

Turning from the haunted look with which Miss Hennessey regarded that closed door and from the clenching and unclenching of her white nervous fingers, Rothery rose and peered studiously from the window. Resolutely, he closed his mind to the feelings he knew were torturing the girl.

To the north, a white shaft high above the sea of intervening roofs, loomed the comparatively new skyscraper of Transoceanic Airways, its landing stage, thirteen hundred feet above Central Park South, the center of a swarm of small aircraft that darted confusingly hither and yon, landing, taking off, spiraling out of sight in a ceaseless procession.

Collins had mentioned the T. O. A. building as one he had doomed to destruction. Could he possibly have meant it or was this merely a blowing off of his bitterness and grief?

Rothery puckered his brow in a frown of uncertainty and worry for his friend.

HE was startled from his thoughts by a subdued and anxious feminine

voice. "Mr. Rothery—please tell me more about this. There is a lot I don't know."

"Sorry, Miss Hennessey, I was day-dreaming. For a few minutes I forgot I was not alone. What is it you want to know?" Rothery returned to his seat and essayed an encouraging smile.

The girl returned it, and he noted with some surprise that she was a remarkably attractive young woman. Strange that he should only now discover this after more than three years of daily, sometimes nightly association in laboratory and office.

"About Mr. Collins senior and—oh—more about this Honeyford. The papers didn't mention *him*."

"They wouldn't,"—drily. "Pete Collins is nearly correct when he says old Honeyford is his father's murderer."

"That's what I don't understand. Why? How? Honeyford's president of Skyscrapers, Incorporated, isn't he?"

"He is, the old buzzard."

"But what has that to do with the death of Jeremiah Collins? I hate to call it suicide but it seems it was."

Rothery nodded glumly. "You knew, didn't you, that the elder Collins was a real estate operator?"

"Yes, vaguely. And reputedly of great wealth."

"Once he was extremely wealthy," admitted Rothery. "Had something like ninety millions. He laid the foundation for this fortune in 1945, when he was a young man and when real estate values in New York City were skyrocketing. Fifteen years ago, in 1964 to be exact, this Honeyford began to loom big on Collins's horizon. Soon he was a power in the realty market. Then he organized Skyscrapers, Incorporated."

"That was when he bought over the old Empire State building and the Radio City group?" The girl sat forward,

deeply interested.

"Yes, and built the T. O. A. and Air Power buildings, one hundred and five stories each of them—to top the Empire State by a couple of stories. Now there are the still larger ones he built and others under construction. Honeyford is said to be the richest and most influential man in the country, if not in the world.

"But where did Mr. Collins senior fit in?"

"He was one of the goats. Or rather one of the shorn lambs. He was cleverly—crookedly—outmaneuvered in deal after deal until Honeyford broke him—financially and spiritually. You know the rest."

"Yes, I know the rest." Miss Hennessey fell silent, she too gazing out at the T. O. A. building with its crowning swarm of mechanical flies.

The sharp ring of the telephone startled them both. With a visible trembling of her hand, the girl reached for the instrument.

ROTHERY heard the rasping metallic voice that came over the wire. He heard but could not understand the quick clipped syllables. Pete Collins. Slowly Miss Hennessey's color drained away as she listened. Her face was chalky and her chin quivering when there came the click of the disconnection and she hung up.

"Out of his head entirely," she wailed. "Insisting, demanding that we move office and laboratory equipment—this week."

"Still threatening destruction?" Rothery asked her.

"Yes. Annihilation, he puts it now."

"Where is he?"

"He didn't say. But in some factory or warehouse, I thought. There was the hum of machinery."

"Hm-m." Rothery drummed on his

desk top with nervous fingers. "He's temporarily deranged by the tragedy," he stated. But there was no conviction in his tone.

"Hahn't—hahn't we better see about getting him to a doctor?" the girl suggested.

Rothery snorted. "In three years you should know him better than that. Doctor? A riot squad couldn't drag him to one."

"What shall we do?" Miss Hennessey was obviously distraught with anxiety.

And, unaccountably, this nettled Rothery. "Nothing," he said stiffly. "Just sit tight and go on with our work as if nothing had happened. He'll come around all right after the funeral."

"Do you really think so?" The girl perked up considerably.

"I do. Let's forget it now."

Rothery moved toward the door of the laboratory adjoining the office. But in his heart he did not believe the words which had partially reassured the girl.

Certain of Pete Collins's private experimentation came to his mind. Certain obscure forces with which his partner had been working, secretly of late. The locked room beyond the laboratory proper where Collins sometimes had labored all night and far into the following day. Rothery wondered.

He moved to the locked door and tried the knob. No use. Suddenly galvanized into action, he started an acetylene torch. In less than two minutes he had cut the lock out of the steel door.

The room was empty!

Benches and apparatus were gone. Shelves and closets were bare. All that remained of Pete Collins's private property was a wall map.

With mounting apprehension, Rothery studied it. The lithograph was an

excellent one, to scale, covering Manhattan Island from 110th Street to the Battery and the downtown section of Brooklyn as well. On it, circled neatly in green, were the forty-odd huge buildings owned and operated by Skyscrapers, Incorporated.

And five of these structures had been marked in vivid red, a compact group of which the Empire State building was almost the exact center.

Collins, then, was in earnest. He had been planning *something* for a long time.

CHAPTER II

A Strange Machine

ROTHERY returned to the main laboratory and sat regarding with vacant eyes the array of choke coils, condensers, inductances and vacuum tubes on one of the test benches. He was trying to picture in his mind some of the complicated hookups with which Collins had been playing recently. He had never discussed these matters with his partner, having respected since their university days together those silences and periods of jealously guarded lone activity to which the more studious man was addicted.

But this—this was different. Rothery found it difficult to believe that Collins actually meant to carry out a personally conducted warfare against the Honeyford interests. Or that, even if he had such a serious thing as wholesale destruction actually in mind, he could bring himself to the point of going ahead with it. For that matter, how could a lone individual bring about the annihilation of giant structures of steel and masonry and concrete like those he had mentioned? It just wasn't within reason. Collins would give up any such impossible scheme and return to

normal once the remains of Jeremiah Q. were cremated and the ashes safely stowed away in the family vault. Or would he? Rothery realized with something of a shock that, for all of their years of friendship and close association, he really knew very little regarding the inner workings of his friend's mind or of his private life since they left college. Collins had always presented something of a mystery to him, though they had been bosom pals.

The laboratory now seemed more than ordinarily quiet and the young engineer found himself listening for sounds he knew should be there. It was borne in upon him that what he missed was the subdued clicking of the typewriter in the outer office. He moved to the door and flung it open. Miss Hennessey was not there. And her hat and coat had been taken from their accustomed places in the closet. She had gone out on account of Collins, or to look for him. Rothery's alarm vanished and other feelings he could not analyze replaced it.

He suddenly felt very much alone and very helpless. It required all of the resolution he could muster up to get to the important work that lay ahead of him. The Air Power Corporation was awaiting a report already long delayed.

Once at the test bench and his work started, he was quickly absorbed in the mysterious vagaries peculiar to the wave form characteristics of the energy transmitter he was testing by oscillograph. Hours later he reluctantly came out of his absorption, forced to desist from his labors by the insistent jangling of the telephone bell in the outer office.

He knew Nora Hennessey was talking as soon as he heard the carefully modulated, somewhat frightened voice.

"I've found him," she whispered,

"and I think we — you — ought to do something about him."

"Collins, of course. Where is he?"

"In an apartment on 57th Street. I'll meet you on the corner of Sixth Avenue and take you there, if you'll come."

"But, how on earth did you find him and what is he doing there?"

"I had a hunch that was pretty good. Tell you all about it when you get here."

"Okay. Coming." Rothery hung up and grabbed his hat.

His frown deepened steadily with increasing puzzlement as he left the building and walked rapidly up the Avenue. He found Miss Hennessey awaiting him at the appointed spot.

ROTHERY grinned at her questioningly. "Now, what's this all about?" he demanded.

Unsmiling, the girl plucked at his sleeve. "Come along," she urged. "I'll tell you on the way." Her quick, clicking steps led him in the direction of Fifth Avenue.

"Don't ask too many questions, please," she begged. "There isn't time to answer. But Pete rented an apartment up here several weeks ago and moved in nothing but the equipment from his private laboratory. I stumbled on the fact quite—quite by accident."

Rothery saw from her confusion that she really did not want to be questioned much. "And he's there now?" he asked.

"Yes, working at something I'd like you to see. And looking—oh, terrible."

"Will he enjoy our watching him?"

"He'll not know. There's an empty apartment across a narrow court. I got the key from the superintendent. We can see from there without Pete knowing."

"You ought to be a detective," Rothery told her admiringly, although that "Pete" grated on his raw nerves.

The girl flushed. "I've never done a

thing like this in my life. And I don't know why I'm doing it now. But here's the house."

They entered the hallway of one of the rather swanky apartment houses that reared above a row of swankier shoppes. The elevator boy nodded and smiled knowingly, his expression betraying his idea that the young lady had brought her man to approve the selection of rooms.

But Rothery and Miss Hennessey had no interest in the rooms as such when they let themselves in. The girl led the way to what was evidently a card room or sewing room, pointing to the drawn shade which darkened the only window.

"There's a slit in it," she explained, "and you can see him plain as day."

Rothery peeped, feeling extremely guilty and not a little foolish. Across the few feet of intervening space he looked through an open window into a lighted room where Collins, still disheveled and wild-eyed, was working methodically with a setup of apparatuses that at first seemed to bear no relation to one another.

There were two energy transmitters of moderate power with hoop antennae of sizes so small that the frequencies must be enormously high, the voltage comparatively low and the amperage relatively great. The antennae were set at angles that would indicate to the casual observer that one transmitter was bucking the other. At the point of convergence of their directive beams was set an oblong box of white metal, its top and sides perfectly smooth and unrevealing.

Beyond the mysterious oblong box, close to the far wall, were two structures that looked like models of old fashioned fabricated steel radio towers. These were set about ten feet apart and each was some three feet in height,

broad at the base and tapered toward the top. They might almost have been miniature Eiffel Towers. Between their tops was stretched a taut wire, white silk or asbestos covered apparently, from which depended centrally a vertical length of wire that terminated on the lower end with a pointed weight which looked like an ordinary plumb bob. Beneath the point of the weight, which hovered a foot above its surface, was a metal plate that had been laid on the floor and to which nothing was connected.

Collins adjusted first one transmitter, then the other, after which he closed a master switch that had been connected through the starting relays to actuate the two apparatuses simultaneously. No result was apparent to Rothery, watching the transmitters.

"Look at the wire between the toy towers," Miss Hennessey whispered.

ROTHERY looked. The wire had sagged so that the small pointed weight was lowered several inches nearer to the metal plate. Collins squatted and took a measurement of the distance separating the two. Then he returned to the energy transmitters and made new adjustments. The weight raised to its former position and the horizontal wire again tightened. A further adjustment and the weight dropped to within a very small distance from the plate. This time, even with the main switch opened, it did not again arise. Once more Collins took his measurement.

"Hm-m," grunted the watching engineer. "He's only heated the cross wire with radiated energy and checked its expansion. But it took a permanent set after a certain point. Must be some entirely new alloy he's trying out."

"But why such an elaborate setup? And why does he seem to be so elated.

Look at him."

Indeed, Collins seemed more than elated. He was triumphant. "Got it!" they heard him yelp gleefully. Then he ripped down the horizontal wire from the tower tops and, grabbing up the oblong box, dashed with it to the door of the room. The door opened and then closed with a bang. Pete Collins was gone and his secret with him. Rothery would have given a great deal to know what the white metal case contained.

But what concerned him most was the actions of his friend. Especially at a time like this.

"Can you imagine a guy like that?" he asked the girl, who still crouched at his side. "Headlines in the papers, his dad a suicide, with his body awaiting the offices of the undertaker and the preacher, while he fools around with that junk over there. Raves about tearing down big buildings and getting revenge on Vic Honeyford. He'll be cutting out paper dolls next."

Miss Hennessey sniffed audibly and a bit impatiently. "Don't take it seriously, do you?" she asked.

Rothery grinned his crooked grin as he helped her to her feet. He did not want to admit how seriously he *was* taking it.

"Yes and no," he countered. "I'm a lot more disturbed about what he's doing to himself than with what he threatens to do to others."

"So am I. But—" Miss Hennessey bit her lip.

Rothery wondered what she had been about to say. The girl was holding back something, that was certain. Did she know more about this than she was revealing?

Shrugging, he said: "Anyway, we've lost track of him now. He'll be out of the building and away long before we can catch up with him."

"I have another of my hunches. A

woman's intuition, you may call it. I believe he will go home. Shall we return to the shop?"

"Yes,"—absently. "There's the Air Power job, you know."

Amazingly, Miss Hennessey stamped her small foot. "You—you don't seem to care what he does or what becomes of him," she stormed. Then she flounced through the suite of rooms like a miniature whirlwind.

Rothery heard her slam the outer door and he grinned broadly. "Never knew she had so much spirit," he approved. Then, solemnly, "Pete doesn't deserve her. Nor would I, if there was a chance."

He was hardly aware of the crowds of hurrying pedestrians nor the swiftly moving airpowered traffic of the Avenue during the walk back to his headquarters. And Rothery ordinarily was a good observer.

MISS HENNESSEY'S hunch again proved to be a good one. Later in the day Rothery called the Madison Avenue apartment Collins had shared with his father and was told by his valet: "The young master, Sir, has retired. He is sleeping peacefully as a babe, Sir, he has been that upset."

Work in the Collins and Rothery laboratory proceeded now under pressure of demands from the Air Power Corporation and once more the relations between Rothery and the girl became those of scientist and assistant, of employer and employee. Miss Hennessey was as engrossed as was he and neither of them had time to discuss their concern regarding the missing partner. Rothery made up his mind not to worry about it until after this job was finished—Pete Collins would make no move until after the funeral, he felt sure. And, thinking back to the girl's final remarks in the empty apartment, he be-

lieved, too, that he had successfully hidden from her his really serious fears as to what his partner might do, what danger and trouble might result from the effects upon him of Jeremiah Q.'s financial ruin and dramatic suicide.

Miss Hennessey, he observed, looked at him queerly and with an attempt at secretiveness from time to time as they labored together over the instruments and calculations. As if she were about to tell him something of moment. But she never spoke, excepting in connection with the work they were doing. She was being as reticent as he.

Eventually the Air Power tests were completed, the report finished to the last detail and despatched by messenger. Rothery breathed a sigh of relief. This was the day of the last rites for Jeremiah Q. Collins.

"We'll take the rest of the day off," he told Miss Hennessey.

"And attend the services?"

"Together, if you're willing. But first we have lunch—also together?"

"Why not? And, thanks." Miss Hennessey seemed to see nothing out of the way in what Rothery proposed.

But to him it was an undreamed-of presumption. He had asked her on the spur of the moment and, now that she had accepted, was not sure whether he was glad or sorry. Somehow he mumbled his way through the luncheon conversation, thinking every eye in the restaurant was upon him. Why this was so he could not have explained. But the girl did not seem to notice. She did most of the talking, brightly and naturally.

Neither of them spoke of Collins, even when, after lunching, they turned their steps toward the church where the services were to be held. The subject had been tabooed by mutual consent.

But that was not to last for long. In the church they sat mutely and soberly

attentive. The attendance was not large, even though the press and telecasts had more than half-heartedly eulogized the deceased. A failure in life has not many friends.

Peter Collins was chief among the few solemn mourners. He sat stiffly erect, grimly stern and white-faced through the conventional ritual, not once looking toward the pew where sat his erstwhile associates.

But when they were leaving the church an usher passed to Rothery an envelope marked for him in Collins's hand. He opened it gingerly as he turned down the Avenue with Miss Hennessey trotting at his side. It was a note written in Pete's semi-printed chirography.

"I'm going to be out of circulation for a while," it read. "Don't look for me. I'll not warn you again about moving the lab. But *move it*. Be there at ten sharp tomorrow morning, when I'll stage a demonstration that will show you I mean business. A week later, the real crash!"

"Now you believe he's serious?" Miss Hennessey asked, when her companion had read it aloud.

"I believe it,"—grimly. "And after ten tomorrow we'll know what to do—maybe."

"I'll be there," said the girl. "And now, here's where I take my train. Until tomorrow, Mr. Rothery. Thanks for the lunch."

Then she was away, a swiftly moving little figure that was at once swallowed up in the depths of the Fifth Avenue subway.

Not until she was out of sight did her employer realize that he did not even know where or how she lived. Undoubtedly her address was in the office records, but he had never paid any attention to it if ever he had seen it.

Truly lonely for the first time in his

life, and oppressed with a deep sense of frustration, he hailed an airpowered cab and directed the driver to his uptown bachelor apartment.

That night he did not sleep well. Nor, if the truth be known, did little Miss Hennessey.

CHAPTER III

A Skyscraper Trembles

OCTOBER 20, 1979. Rothery would remember the date always. In the first place it was his thirtieth birthday. Secondly, the rain that mercilessly soaked all pedestrians that morning was one of the worst downpours in which he had ever been caught. Drenched to the skin, he walked into one of the high speed express elevators of the R.C.A. building and bumped clumsily and wetly against a small figure that was encased in a voluminous transparent rain cape. At his stammered apology the pert face of Miss Hennessey looked up at him from beneath the hood. The pert face was flushed with health and the blue eyes smiled. Lastly, he would remember the date for—well, on account of the shock that came later, perhaps. At any rate, it was a notable date in many more ways than one.

"You'll catch cold," Miss Hennessey reproved him as they were whisked up to the 54th floor.

"Not I," Rothery boasted. "That's one thing I am never troubled with. You—you look well protected, though."

"Against the weather, not other things."

Unused to the ways of the gentler sex outside of business, Rothery pondered this remark as he unlocked the office. It didn't make sense somehow.

It was 9:30, so they had not long to wait for the demonstration Collins had promised. If there was to be a demon-

stration. Rothery glanced hastily through the morning mail. The girl dusted off her desk and started cleaning her typewriter with languid and aimless fingers. She was glancing at the clock every couple of minutes, Rothery saw.

At 9:55, as by telepathic *rapport*, they moved to the window and stared out toward the T.O.A. building, which was barely visible through the veritable cloudburst that was soaking the city. Neither of them spoke.

Rothery was conscious of the comforting warmth of the radiator by the window. His soggy trouser legs would be steaming in a few minutes. By that time . . . just what were they to expect anyway? A demonstration, Collins had put it. Of what? Presumably of his ability to destroy enormous structures of steel and masonry. But how? Explosives were an impossibility—not only would large amounts be required but it would be impossible to place the charges and set them off without detection. Besides, *that* could not be demonstrated in advance. Explosives were too crude for a scientist like Collins anyway, too swiftly final and undramatic. No. . . .

"It's ten o'clock," breathed the girl.

There came on the instant a terrific thump and the violent jerking of the floor beneath their feet, followed by several decreasingly lesser tremors. Miss Hennessey grabbed the edge of her desk as if to keep her balance. Pictures banged against the wall. And Rothery was sure he heard the radiator thud beneath the window sill.

"An earthquake!" gasped the girl.

"No—Collins."

"But what—how?"

"Hanged if I know, but he's shaken the building violently, that's a cinch."

The halls rang with excited voices and the two went out to find a milling

crowd of alarmed tenants running aimlessly about, asking each other questions, shouting, jamming in panic-stricken groups around the unresponsive elevator doors. "Earthquake," "Explosion," "War!—bombing planes," "Fire!" "Police!" The alarmists were yelling everything they could think of.

Miss Hennessey was attempting to calm a group of hysterical girls. Rothery tried desperately to make himself heard above the din around the elevators. Both were unsuccessful.

Rothery made his way to the girl and drew her aside. "Nothing we can do," he told her. "Let's go back to the office until things are quiet. It'll be a half hour before they've cleared out."

ONCE more at their accustomed desks, they faced each other soberly. Rothery reached for the telephone and slowly dialed a number.

"Who you calling?" the girl asked him.

"Columbia University. Seismograph room."

He was speaking into the instrument then, in clipped syllables. At the reply he nodded, thanked his informant, mechanically hung up.

"No tremblor recorded. No sign of a quake," he explained. "As we expected, of course."

"It was Pete's doings, all right. But *what* did he do and how did he do it?" The girl's tone belied her words. She sounded as if she already had a theory.

Eyeing her speculatively, Rothery shook his head to denote temporary defeat. "It's beyond me," he was forced to admit. "And I can't for the life of me find any connection between this occurrence and Pete's experiments, either here or in his place up on 57th Street. He's evidently using some force that acts upon the steelwork of the building. But how, I can't even guess."

"Mr. Rothery." The girl sounded apologetic. Something dangled from her hand. "I've been holding out on you. Not purposely, but I found this outside the door of Collins's place and have been carrying it in my pocket. Forgot it. That was the day we spied on him."

She held out for his inspection the white-covered wire and the pointed weight Collins had snatched from the toy towers. Rothery reached for it without comment. It was *not* wire, but an excellent grade of strong wrapping twine. No energy transmitter could have any direct effect on *that*. What then?

"And," Miss Hennessey resumed meekly. "I went again—at night."

"You did!"

"Yes. And I guess I vamped the superintendent into letting me into the apartment."

"Pete's?"

"Yes. And guess what I found—those towers were bolted down solidly. The bolts went through the floor covering into a continuous steel beam."

A light dawned upon Rothery. The energies could act only between the two latticed towers, somehow pulling them together as if a turnbuckle were being tightened on an actual cable stretched between them. A tractor force.

"By George!" he exclaimed, "he was deflecting those small towers by radiations from his apparatus. Causing them to bend toward each other. And measuring the sum of their deflections, calculating his forces with the string and weight movements."

"Exactly. That's what I figured."

"Why — why, you little sonofagun!" Rothery breathed admiringly. "Why didn't you tell me before?"

"Oh, you were so—so—"

"I know. So doggoned high hat and stubborn. Should have looked into it myself."

"Well-I."

Rothery laughed shortly. "No excuse for me," he snapped. "But you're a darned clever girl, Miss Hennessey. And a credit to—oh, Collins and Rothery or any other lab."

"This isn't getting us anywhere about Peter Collins or about moving," she replied primly.

"No." Rothery's feet came down from the desk top, where he had ungracefully draped them.

THE clamor in the halls, he noted, had subsided considerably. He turned on the telecast receiver on a sudden thought. As he half expected, a plane-camera view of a skyscraper swayed dizzily into view on the screen. But this was not the R.C.A. building; it was the Empire State. Of course! There would have to be *two* of them, like Pete's toy towers. He leaned forward. So did Miss Hennessey, eagerly listening to the newscaster who was speaking.

No so much watching the telescreen as listening to the words of the newscaster, Rothery and the girl were raptly intent as the story unfolded. Reports had been coming in regularly and continued to come in. Eyewitnesses were in the studio. Camera planes were hovering about the involved buildings to bring all news possible to the television audience, by courtesy of Skyscrapers, Incorporated. The irony of that!

Near panics had now quieted down, in both the R.C.A. building and the Empire State, the only two large structures known to be affected. Witnesses of the rioting at the elevators on upper floors told graphically of the fighting and the trampling which had resulted in many minor injuries. Tenants in the lower floors were unanimous in stating that they felt no shock, only that they heard a resonant vibrant twang as of

the plucking of a huge violin string. As to the pitch of this sound, opinions varied, some stating it was low, some high. Others claimed it was so intense as to leave the eardrums tingling for many minutes afterward.

Victor Honeyford was introduced. Always the publicity seeker. He smiled unctuously, his multiple chins aquiver, assuring the television audience that all danger was over and nothing at all was to be feared. He stated it as his opinion that both of the buildings affected stood on the same vein of metallic rock in which perhaps some disturbing vibration had been set up accidentally, either electrically by a harmonic of load conditions or mechanically by surging traffic vibrations between the Fifth and Sixth Avenue subway lines. The technical staff of Skyscrapers, Incorporated, was, however, fully investigating.

In disgust, Rothery switched off the receiver and started pacing the floor.

"Poppycock!" he sneered. Then, soberly: "At that, he may not be so far wrong. Except that the vibrations were man-made. Do you see, Miss Hennessey, the analogy to what Collins set up there on 57th Street?"

The girl nodded, her chin cupped in her hands, her eyes starry. Why she should seem elated in spirit at this point the young engineer could not fathom.

"Look," he went on. "These two big buildings may be likened to Pete's small but husky towers. Their steelwork is grounded in Manhattan Island as his towers were in the steel floor beam. An energy, a unknown field of force similar to magnetism, but infinitely more powerful could act between the two structures to deflect them inward, so to speak, in the same manner as in the experiment. Then, with the attracting force suddenly released by the pulling of a switch, the materials not having been stressed beyond the elastic limit,

there would be a springing back to the vertical position, the structures oscillating for a moment before coming to rest. There's your twang and your earthquake shock."

"And the secret of this force is in the white metal box," Miss Hennessey added.

"Righto. But in a bigger one than Collins carried away. Huge amounts of power are involved here, requiring apparatus of considerable size. Where can he have it concealed? And where can all his power come from?"

The girl shook her head gravely. "That is what I—we—you have to find out. He's in earnest, is Peter Collins, and we *must* locate him and stop him."

"A week from today, he said, would be the day of the crash. All he has to do is increase his power until the structures are stressed past the yield point at the locus of highest stress and they'll topple over in disastrous ruin. Think of what would happen for blocks to the north of 34th Street and south of 49th!"

Miss Hennessey closed her eyes and shuddered daintily. As if this were a signal, the door was flung open and two heavy-set men strode in unceremoniously. One of them displayed a shield.

"You John Rothery?" he demanded. "I am."

"Come along with us."

"What's the big idea? Mean to say I'm under arrest?"

"Not *yet*, buddy. But the D.A. wants to see you."

"Okay." Rothery reached for his rain-soaked felt and grinned encouragingly at Miss Hennessey.

"I'll hold the fort," she smiled back. Obviously his predicament did not strike her as nearly so serious as Collins's.

But Rothery would have been puzzled and more than amazed had he known that her bright head dropped to her

arms as soon as he had gone out with the plain clothes men.

THE district attorney greeted him affably enough and bid him be seated. "You're John Rothery," he asked, "partner of Peter Collins?"

"That is correct."

The D.A. tossed a note on the desk before him. "Is that your partner's handwriting?"

Rothery saw with sinking heart the distinctive and unmistakable copperplate script. "It is," he admitted ruefully.

"Read the letter."

It was short and to the point, addressed to Honeyford and stating merely that the two buildings which had today been shaken would be utterly destroyed at ten A.M. on October 27th, and adding ominously that others were to follow. It was signed boldly, "Peter Collins."

"Know anything about this?" asked the D.A. when he had finished reading.

"Only that he told me the same thing verbally. At first I thought he was only upset by his father's suicide—raving, you know."

"But now you believe he will do what he says, that he *can* do it?"

"I'm afraid so. You see I was on the 54th floor of the R.C.A. building at ten this morning."

"How is he doing this thing, Mr. Rothery?"

"I wish I knew. I have theories but can not substantiate them. Nor could I duplicate his feat."

"Sure you're not personally involved in this with your partner?"

"I positively am not."

"Where is Peter Collins?"

Again, I wish I knew. I might have some chance of dissuading him from his mad plan."

"Sure you don't know where he is?"

"Positively."

"Well, we'll find him." The D.A. pressed a button. Victor Honeyford and two uniformed policemen came into the room.

"This is John Rothery," the D.A. told Honeyford. "Do you wish to prefer charges against him?"

"The warrant is already sworn out."

"What are the charges?" Rothery demanded indignantly.

"Attempted extortion. Blackmail. Assault."

"You will appear against him tomorrow morning?" asked the D.A.

"I will." Honeyford avoided Rothery's smouldering eyes.

The young engineer bounded to his feet. "Why, you—you—" he sputtered.

"Take him away," ordered the district attorney, waving a hand.

And for the first time in his life Rothery felt the grip of steel handcuffs on his wrist. "You can't do this to me," he raged.

One of the officers laughed. "We've heard that before, buddy. It's a good laugh in the clink—where you're goin'."

An hour later Rothery had been fingerprinted and photographed and "frisked." Then he was taken to the felony detention pen, shoved into a cagelike cell where there were two hard wooden benches that might be used as seats or backbreaking bunks. The cop *had* allowed him to telephone his office. At least Miss Hennessey knew where he was.

THE rest of the day was a nightmare.

Rothery spent several hours raging inwardly against Victor Honeyford and against a system that can permit of a man of his calibre rising to such a position of power as to be able even to force the district attorney's office into jailing an innocent man on obviously trumped-up charges. And criminal charges, at

that. Handcuffs, fingerprints, pictures with a number on his chest for the rogues' gallery. And tomorrow morning the lineup, just like any common dip or gunman.

In other cages were dope fiends, some yelling for the needle they could not do without, low-browed habitual criminals of the worst sort, loudly attired individuals of the racketeer variety, dapper ones of the light-fingered or degenerate variety. As yet Rothery had no cellmate.

They had taken away his belt and necktie, pencil and pocket knife. But they had left his wallet intact. Late in the afternoon an officer came to the bars of his cell.

"Want anything to eat, buddy? If yuh got money we kin get it fer yuh."

"What sort of eats?"

"Sandwiches, coffee, candy, cigarets," the cop singsonged.

"One ham, coffee, and a pack of butts," Rothery told him.

"That'll be thirty-five cents. And a dime fer deliverin'."

Rothery paid him and fell to cogitating on the situation into which he had been thrown. There was a commotion in the corridor and in the next instant his cell door opened and a battered and bleeding hoodlum was thrown in along with him. He flung himself prone on one of the benches and gazed ceilingward without speaking to Rothery.

When the sandwich and coffee arrived the man sat up. Rothery looked away from him, opened the package of cigarets and lighted one, inhaling deeply. His cellmate husked: "Gimme a butt, brother."

Rothery passed him the package, then set the paper-wrapped sandwich and the container of coffee on the unoccupied bench. His companion was not an appetizing sight, with his filth, the cut on his forehead, the swollen lips

and blackened eyes. The natural evil of his grimace was most revolting as he volunteered:

"See what the flatfoots done to me? The muggs. An' all I done was roll a drunk. Fer eight bucks an' his ticker. Kin yuh beat it?"

The fellow eyed the sandwich and coffee which Rothery had left untouched. "What's wrong, brother. Why dontcha eat?"

"Not hungry."

"Yuh git over that." The man babbled on. "Gimme the grub. I'll eat it."

Rothery nodded for him to help himself.

"Tanks. Wot's yer racket, brother?"

"Racket?"

"Yeh. Wot dey pinched yuh fer?"

Rothery did not want to talk but felt as if forced to in order to take his mind off the manner in which the fellow was wolfing down the sandwich and gurgling the coffee.

"Believe it or not," he said. "I didn't break any law at all."

"Hal! Innocent, yuh sez. Dat's wot dey all say. Dat's wot I said, a hunnert times. Dey *can't* do dis to us innocent guys." His uncouth howls of merriment brought boos and catcalls from the other cells.

Having finished the meagre repast, the fellow licked his lips, wiped them with a dirty sleeve, lay down and almost immediately was snoring. Rothery felt he would never again have an appetite; he consumed one cigaret after another.

He commenced to pace the cell floor. Under other circumstances he might have seen some humor in the situation in which he found himself. But with Collins berserk and at large, with the power and influence of Victor Honeyford against them both, it did not seem at all funny. For the life of him he

could not imagine what the financier expected to gain by having him incarcerated. If the threatening note had alarmed him, why didn't he use the one man who might be able to influence Collins—himself—instead of having him locked up? It makes no sense at all. The devil take Honeyford anyway! Rothery found himself sympathizing with his partner's insane scheme.

His name was called from the outer gate. "John Rothery, going out!" It was too good to be true. The other prisoners booed again. The dope fiend in the cell across screamed horribly.

Then the door of his cell was reluctantly unlocked and he walked out of the detention pen. In the main corridor, waiting for him, was—Miss Hennessey.

Amazed, he hailed her. "Nora—Miss Hennessey! How on earth did you do it?"

The girl smiled mysteriously. "Oh, I have some friends, I know some people," she told him. "Come along, let's go."

CHAPTER IV

A Woman's Treachery

"**N**OW, seriously," said Rothery, when they reached the street, "what have you been up to? I know darned well I'm not out on bail. I haven't even had a hearing; bail hasn't been set."

"How did you guess it?" she countered. "Of course you weren't bailed; you couldn't be—yet. You're free. And there won't be any hearing."

"But—" Rothery looked at his watch and saw it was 7:30. Let's go up to the lab and talk this out."

"There isn't any lab or office either. We've been moved."

"Say! Too much is too much. Listen—"

"We'll go to my apartment and talk."

Taking the matter in her own hands, Miss Hennessey hailed a cab, which whisked them from Centre Street to Gramercy Park in what seemed like nothing flat.

On the way the girl evaded the issue, though Rothery boiled with impatience. "A cocktail, a cigarette and an easy chair are what you need to be able to take what I have to tell you. So it has to wait."

Satisfied perforce, Rothery was not a little surprised on their arrival to find that the girl he had known so well and yet so little *about* lived in an exclusive apartment building that faced the park. Her rooms were the last word in comfort and good taste. The salary paid to her by Collins and Rothery had never furnished nor supported *this*.

He had his cocktail, cigarette and easy chair. At once he felt at home.

"Now!" he challenged from the depths of the soft upholstery.

"Better than Centre Street, is it?"

"You bet. But, go ahead—shoot!"

"Well, I went personally to Honeyford and induced him to withdraw his charges. You were released by the D.A.'s office."

"You what! Went to Honeyford?" This young woman about whom he knew so little was a witch—she *must* be.

"You heard me. That was *after* the stuff was moved out of the laboratory."

"Now, wait a minute. A little at a time. *Our* laboratory?"

"Sure. I had a hunch what was wrong, that Honeyford only wanted you out of the way for a while, so after you were pinched—"

"Arrested."

"—arrested then—after you phoned me I locked up the place and went

walking in the hall. Casual like, you know. Pretty soon the men came."

"What men?"

"The ones who cleaned out the office and laboratory. We won't have to move now. We *have* moved."

"I'll be dog-goned." Rothery's cigarette had burned short and he lighted another.

"They were Honeyford's men, I know, and they took out every blessed thing, records and all."

"So by now his technical staff is busy trying to learn Collins's secret."

"Of course. And they'll learn nothing. But once he had the stuff safely out Honeyford didn't care so much whether you were locked up or not. Simple, wasn't it?"

"Young lady," Rothery accused her, "you're still holding out on me. You couldn't put it over on the skyscraper king that easy."

"Well-I, maybe I was a little persuasive."

Rothery regarded this amazing young person through a cloud of cigarette smoke. "Why did you do it?" he asked gently, after a long moment.

"Why? Why, because we have to find Pete Collins and—and save him. That's why. He'll kill hundreds of people, probably, if he succeeds. He'll ruin himself—and you."

"Oh—so that's why."

"Of course. What else?"

Rothery smoked in silence for a time. "Young lady," he finally said, "you see before you a first class idiot. A blind one. But now I see plenty of things I couldn't see before."

"What, for instance?"

"You ought to know." Rothery arose and commenced pacing.

"Sit down," he was commanded. "This isn't a cell. Besides, I'm going to get us something to eat."

"Okay." The young engineer re-

sumed his seat and watched admiringly as his hostess busied herself in the immaculate kitchenette. "But I warn you that things will start popping tomorrow. And you are still on my payroll, you know."

It was late that night when he reached his own quarters. And he slept remarkably well.

THINGS *did* start popping in the morning. But not in the way John Rothery had intended. Upon arising, he did not feel in nearly as good humor as he had when he retired. And a few minutes later he felt worse. The ring of his telephone had awakened him and now its voice was that of Nora Hennessey.

"I can't meet you as we planned," she told him shortly. "Something came up I can't explain till later. But you go over to 57th Street and take your measurements and I'll join you there in two hours. All right?"

"Sure, it's all right. See you later—" The rest of what he had been about to say was never said, the click of her disconnection stopping the words in his throat.

She hadn't sounded or acted at all as she had the previous evening.

Nevertheless, he bathed, shaved and breakfasted, then, hurriedly dressed for the street, made for his partner's apartment-laboratory. He intended to know more about those towers and transmitters before setting out on Collins's trail.

Yes, the superintendent would let him have the key. Nora Hennessey had fixed that by a telephone call the night before, after Rothery had learned by talking again with Pete's valet that the "young master" was decidedly among the missing. Which was what he had expected.

He let himself into the bare apart-

ment and strode to the room he and the girl had spied upon. The apparatus was still there and he went to work getting the data he wanted in order to supply some details he thought important.

With a steel tape he carefully measured the center to center distance between the bases of the small rigid towers, then the same between the tips. There was a difference of four inches, he found. Each tower had been deflected toward the other a matter of two inches in a total of forty inches height and—stayed there! he stress due to this queer energy of Pete's had exceeded the elastic limit of the steelwork.

Next he checked the frequencies of the two transmitters, jotted down the antenna angles and nameplate data on capacity and range characteristics. Then he put away his notebook and glanced around the room before preparing to leave.

"Stick 'em up, fellah!" a gruff voice hailed him from the doorway. "That's right—up! Reach!"

Slowly, seething with fury, he raised his hands as bidden. He saw a second burly form behind the first. Both men wore low-crowned derbies shoved back on their heads; the one in front was covering the engineer with a blunt blue-nosed automatic held at his hip. Honeyford's plug-uglies or private dicks, Rothery guessed.

"Just let me relieve you of the little red book, fellah, and you can go your way." The one with the gun came in close, reached for Rothery's coat pocket.

The pistol, still held low, was within a foot of his belt buckle when, quick as thought, Rothery brought up his knee sharply and at the same time swung a vicious raking blow down across the fellow's nose and lips. The pistol clattered to the floor ten feet away. Blood

spurted from the ugly face before him. And then John Rothery found himself in the battle of his lifetime.

HIS gymnasium boxing practice with Pete—a form of exercise they had continued since college days—stood him in good stead. Before his antagonist had recovered from his surprise, a short straight left in the midsection bent him nearly double. Then a hay-maker which Rothery started almost from the floor connected with the point of his jaw. Bones crunched sickeningly under his knuckles; the fellow's head snapped back and he went down and out.

In the split second this had required, the man's companion had scrambled for the gun. But Rothery, in a flying leap, landed on his back as he stooped to retrieve it. His hand slid down the outstretched arm and clamped on a thick wrist just as the reaching fingers closed on the gun butt.

His second antagonist rolled over nimbly and kicked out with both feet, trying to shake off his unexpectedly agile and powerful assailant. The two rolled over and over, slugging each other with their free fists, kicking, grunting, muttering curses. But Rothery's grip remained unbroken. Slowly he twisted and put on the pressure. Then, with a quick lurch, he had floored his man, face down. With a knee grinding into the small of his back and the wrist grip numbing his fingers, with pain shooting up that relentlessly twisted arm clear to the shoulder, the fellow still battled savagely.

Then Rothery, with a supreme effort, with sweat smarting his eyes, wrenched the pistol free and sent it skittering across the floor. Astonishingly agile, his opponent hurled him away and scrambled to his feet. Taking the lighter man by surprise he unleashed a

sledgehammer right that glanced along Rothery's temple and sent his senses reeling. They closed in, pummeling each other with short body punches that had both men fighting for breath. Rothery broke the clinch and was staggered by a left that landed on his throat. He was suffocating, mad with the pain of the blow, when he saw his enemy again reach for the pistol, near which he had maneuvered the fight.

That was enough for John Rothery. With a bellow of rage he sprang, kicked the fellow's hand from the gun and his own fingers closed around its muzzle. Unerringly, he swung the heavy weapon in a short but sufficient arc and its butt crashed against the thick skull of his erstwhile opponent. The fight was over.

Satisfied that both men would recover consciousness in not too long a time and that neither wore a badge, Rothery made himself look as presentable as possible, locked them in the apartment and left. The superintendent, when advised of what had occurred, phoned at once for the police and promised to send Miss Hennessey to Rothery's apartment as soon as she arrived. That girl, among her other accomplishments, sure had this janitor vamped.

Then Rothery went home in a cab, sadly needing a cleaning up. He would just have time; perhaps even he could get back to 57th Street before Nora reached there.

He gasped when he saw his rooms. Ransacked, the place had been—and thoroughly. Dresser drawers were strewn about with their contents spilled out haphazardly. His desk and bookcase had been rifled. Everything was in wild disorder.

And in a corner of his sitting room he found a dainty scrap of linen and lace. A woman's handkerchief! Embroid-

ered in one corner was an initial. N! Nora Hennessey! She had double-crossed him, the little crook. No wonder she sounded differently on the phone this morning.

All of Rothery's previously conceived notions of her went into the discard. It was obvious that the girl had completely fooled him and that actually she was either in with Victor Honeyford or was playing a lone hand in what was appearing to be a most desperate game. The interest in Collins, the sudden friendly attitude toward himself, the obtaining of his release from jail by dubious means, all had been for a purpose. And now she had sent him alone to the 57th Street address, into a trap, and had taken the opportunity provided by his absence to search his apartment or to supervise the job. A cute little playmate *she* had turned out to be.

There was only one thing to do, play a lone hand himself. The police or the D.A.'s office would be useless—Honeyford had them all eating out of his hand. He would have to search out Pete Collins by himself and keep him from his mad plan, get him out of the country if possible. The first step was to have a talk with Edwards, Pete's valet. Personally.

THAT most excellent and far from humble servitor was in a state approaching nervous collapse when he let Rothery in at the Collins duplex establishment.

"He's not been home yet, Sir," he quavered, "and all sorts of rough appearing men have been here questioning me and even going so far, Sir, as to search this apartment."

"Did you notify the police?"

"I did, Sir, an hour ago. And no single Bobby has appeared from the Department. A young lady was here as well, Sir, and she acted most peculiarly

if I may say so."

"A young lady? What did she look like?"

Edward's description fitted little Miss Hennessey to perfection. That girl certainly covers a lot of ground once she starts out.

"Of course I told the men absolutely nothing, Sir, nor the young lady," Edwards avowed.

"Only one thing to make me a bit suspicious, Sir. Rather I may say it was quite extraordinary. On the night of the funeral a most villainous appearing blighter was here visiting the young master. They locked themselves in the library and I heard them quarrel with considerable violence, Sir. The man left in a rage, nearly tearing the foyer door from its hinges when he passed through. A few minutes later the young master likewise went out, his face a chalky mask, and dangerous, Sir, if I may say so. And I have not heard from him in any way since that time."

"Describe his visitor, Edwards."

The valet did his best and Rothery thought he would probably recognize the man if he saw him. But it was certainly no one he knew or had known intimately or had ever seen with Pete. In fact, young Collins had almost no close friends and did not cultivate a wide acquaintanceship.

Nothing further was to be learned from Edwards, so Rothery made a quick trip across town to the huge steam generating station of Air Power which served midtown Manhattan with broadcast energy. He had an idea and he wanted to see Walter Kingsford, the load despatcher.

Kingsford and he had been friends for many years and he was readily given access to the chart of the totalizing wattmeter for the preceding day.

"Any unexpectedly heavy peaks?" he asked Kingsford.

"Why yes, there was one, John. An inexplicable one, too—so far, at least. Wait, here it is."

He unrolled the chart to a point where the irregularly inked red line shot abruptly upward a matter of some twenty thousand kilowatts, then as suddenly dropped to its former level. Rothery noted the time on the edge of the chart. This heavy peak load had come on at just about 9:55 A. M. and was dropped at precisely ten. Collins, then, had pilfered broadcast power for his "demonstration."

He said nothing of this to Kingsford but asked, "You don't know what customer took this heavy surge?"

His friend crinkled his brow. "No, we don't. None of the large consumers' wattmeters recorded it. Of course it may have been a short circuit of some sort, but that is unlikely."

"Any way of determining the direction?"

"Yes. The sphere of the transmitting tower is circled by an intercepting ring which conveys to a recorder the division of load to all points of the compass at all times. And here is the direction line we have drawn for that particular peak."

Kingsford produced a midtown map on which had been drawn from the locus of the plant a red line that slanted across Manhattan to the southeast. This line, Rothery observed, struck midway between the Empire State and the R.C.A. building. Apparently no one had yet connected this circumstance with the happening of yesterday morning.

"Our outside men are now following this line to trace the consumer or locate the point of short circuit," Kingsford told him. "It may require several days. Why are you interested?"

"Just nosey, that's all. And, thanks, old man." Rothery took his leave, with

plenty of food for thought.

Outside the plant, he looked up at the huge transmitting sphere that topped the tower, thinking of the hundreds of thousands of kilowatts of electrical energy broadcast hourly, of the many thousands of pickup spheres on street vehicles, apartment houses, ferry boats, industrial establishments, skyscrapers—all putting this power to work without the need for connecting cables. Of the numberless individual meters that measured it. Of Pete Collins's theft of a huge block of it. Of the danger that threatened.

Something, a premonition perhaps, caused him to hail a street cab and return to his own quarters. And the premonition merged into a certainty that something untoward had occurred.

There had. When he let himself into his apartment, he saw the outstretched figure of a man on the floor of the sitting room.

Pete Collins!

CHAPTER V

Terror Comes to New York

ROLLING his friend over, he saw that he was bleeding profusely from a deep gash in his scalp. His clothing was torn and smeared with grease, the knuckles of both hands raw and bleeding. He was unconscious and breathing heavily; he felt feverish. It was obvious that he had come off second best in a terrific fight and had barely been able to drag himself here and use the duplicate key he always carried.

Rothery loosened his shirt at the neck, bathed his face and wrists with cold water. Collins stirred, then abruptly sat up and started to babble.

"You'll have to stop him," he croaked. "He's down there, alone. Got the secret. Left me on the tracks for dead. Now he'll do it for sure. Won't

wait until the 27th. Won't wait at all."

Rothery understood, piecing together the disconnected utterances. "Who is *he*?" he asked gently, managing by main force to get his friend to wobbling feet and guide his tottering way bedward.

Collins clung to him desperately. "I wasn't going all the way with it," he insisted. "I couldn't, John. But Korloff will; he said so. Right away. I tell you he won't wait—he'll rip them down and be damned to who's in the way. No warning at all."

The sick man's voice rose almost to a shriek as Rothery eased him into his own bed. "Take it easy," he counseled. "Tell me, where is your apparatus?"

"Down there. Old power substation—not used in years. Sixth Avenue sub—"

Pete Collins sighed, his head sank down weakly and he slipped once more into unconsciousness.

Rothery could scarcely believe what he had seen and heard. Korloff, Honeyford's trusted lieutenant until very recently. A man who had fought Collins senior for many years and who had persecuted him mercilessly for Honeyford. There had been rumors in financial circles of Korloff's ruin, of a serious rift between him and Honeyford when he quit Skyscrapers, Incorporated. So far it seemed to fit in the picture and Rothery thought he was beginning to see some light on the peculiar happenings of the past two days. He had not thought of Korloff nor of any other outsider. Possibly even Nora Hennessey was in league with him. That would explain a lot.

But Pete must be attended to at once. And not in a hospital. Honeyford would have the law on him in no time. Korloff would not look for him, thinking he had killed him. First to get the doctor, then day and night nurses.

Right here. Must see to it that he's properly cared for. Then for the other thing.

The telephone brought quick response from doctor and nurse's registry. In a very few minutes Rothery's bedroom began to resemble a clinic. A concussion, the physician pronounced it, serious but not necessarily fatal. Proper treatment and rest and he had every chance of recovery. He prescribed, then gave complete instructions to the day nurse, a most efficient and earnest woman.

Rothery left his friend in her hands and started out, he knew not where. He knew it would be fruitless to go to the police or the D.A. That was out—so far. With the information he now had, he believed he could locate the unused substation under Sixth Avenue. It should be somewhere between 42d and 43d Streets, whether on the east or the west side of the Avenue remaining to be seen. But to get to it was a problem, to forestall Korloff without aid another one.

He would go direct to Honeyford; he might possibly prevail upon the old fool to believe him and to get the authorities into action. Not that he feared to tackle Korloff alone, but the man had done a most efficient job on Collins and if this were to be repeated, with himself the victim, there would be no one to avert the catastrophe that was imminent. Yes, he would have to get Honeyford interested to the extent of providing the necessary police action. And why shouldn't he? His own offices were in the Empire State building.

Rothery saw nothing else to do but go there—even if he were walking into another trap or into the crash itself. The telephone would not do; Honeyford had to be faced down in his own lair. And Rothery hoped devoutly that he would be in time.

As he progressed downtown, he saw that both buildings were still standing. God alone knew how long they might remain. He would have to hurry. Honeyford would have to act and act quickly.

THE offices of Skyscrapers, Incorporated were fairly high up in the Empire State, on the 76th floor according to the directory in the lobby. Peculiar, Rothery thought, that Honeyford had not taken a floor in the T.O.A. or another of the more modern buildings. But here was where the man had started out and here he remained.

In the reception room were several callers, cooling their heels on the luxurious rug, their immaculately clad go-get-the-business bodies reclining in various attitudes from the subservient to the superconfident, in lavishly and deeply upholstered chair or divan. Rothery was greeted by the icy stare of a red haired, peaches-and-cream complexioned goddess. He observed that she was *not* chewing gum. Not here.

"Mr. Honeyford?" she repeated, with eyebrows disdainfully arched. "Do you have an appointment?"

"No, but I think he'll see me. Not only is it urgent, you may tell him, but it is Peter Collins's partner who wants to see him."

The carefully plucked brows arched still higher, but more in surprise now than disdain. "Mr. John Rothery?"

"Correct. Mind getting me in at once?"

"He *has* a visitor,"—doubtfully. "I'll let him know you're here, though." Languidly she plugged in on the switchboard before her.

A minute later the heavily mascaraed lashes went up in astonishment, the effect being rather startling under the artistic brows. "His secretary says to send you right in."

Rothery grinned as she rang for a boy. He had figured on Honeyford seeing him out of sheer curiosity if not because of interest or the audacity of his coming.

The great man, hunched and bulging behind a broad mahogany desk top, sat staring belligerently at his visitor, a thick black cigar clamped between his flaccid lips. At the end of the desk sat a girl with blue eyes and bright bobbed head. Nora Hennessey!

Their eyes met and clung. Rothery went white and his mouth became a thin line. His gaze held no recognition. She's a damned little double-crosser. Blushing to the roots of her yellow hair. At least *that's* real.

She turned from his accusing stare and looked pleadingly to Honeyford.

"Well, what do you want?" the financier growled at Rothery.

"Only to warn you of immediate danger. I don't give a hang what happens to you personally but I do hate to think of what will happen to lots of innocent people on the streets when these buildings crash."

Honeyford guffawed. "Who says they're going to crash?" he demanded.

"I do. Unless something's done."

"You say this as a partner of Collins?"

"You know better than that. Listen, I'm not fooling. And I want you to take action—quick! *Now*, in fact."

"Oh-ho! So you think you can bully me as you did my—"

"You admit they were your thugs!"

Honeyford, astonishingly, reddened. He had made a slip. "Never mind that," he bellowed. "Get to your point."

"I will. It needs to be fast, too. Let's forget our differences in the common good. This disaster may happen at any minute."

"It won't happen. I'll stop it."

"Whatever you think you can do, there's not time to do it. I tell you it may happen now. Don't you understand?"

"Now?" Honeyford at last was interested. "What do you mean? Collins change his mind about the 27th?"

"Collins has nothing to do with it now. It's in other hands."

The pudgy jowls dropped. "What! Whose hands?"

"Korloff's."

NORA HENNESSEY half rose, pressing the back of her hand to her mouth to stifle a scream.

"Korloff!" Honeyford turned savagely on the girl. "*Your* doings, you little devil!"

"No, no—wait!" Miss Hennessey was genuinely frightened. The gross magnate had moved threateningly toward her.

"Don't be melodramatic," Rothery snapped. He was getting impatient. "Listen, you fools. Both of you. Do you want to stay here and be killed?"

"No-o." Honeyford was finally impressed. "What do you suggest doing?"

"Use your influence with the authorities. Have a squad of cops go after Korloff at once. Stop him."

"Thing is to find the apparatus. My men couldn't do it."

"I can. And Korloff'll be where the apparatus is, that's sure."

"You *can*?"

"You can?" Miss Hennessey echoed.

"Yes. Get busy, Honeyford. Get the cops; I'll show them where to look. And we'll get out of this building immediately."

The great man already was on the phone, barking orders. He was the boss now, the higher-up in God knew what widespread activities. "Air Power? I want VanRoos—quick. VanRoos? Honeyford speaking. Don't

wait until the 27th. Cut off all power blanketing Manhattan, *now*. No, in ten minutes. Get me? The thing's busted wide open."

Ten minutes. Honeyford wasn't so dumb. Here was a way to stop the thing that Rothery hadn't thought of. It was revolutionary, incredible to stop the activities of the city this way. He hadn't known Honeyford had authority over Air Power. It might not work, at that. Collins may have provided for other sources of power in an emergency. But this ten minutes would give them time to get out of the building before the elevators stopped running. If Korloff started the energy immediately that might be a different story. The thing was to get the madman at once. They couldn't clear *everyone* away.

Honeyford was asking for another number. Miss Hennessey was moving toward Rothery.

"You mustn't misjudge me," she begged. "At least wait till I can explain. Please."

The blue eyes were dewy, sincere. A swell little actress, she is, to top it all. Rothery growled: "Forget it."

"Riot squads in the Empire State and Radio City areas," Honeyford was shouting at the microphone. "Vocalplanes over the same areas. Clear all cross streets between here and Radio City at once. And have a private squad of ten report to me at once, in front of the Empire State. John Rothery will instruct them. Got it?"

ROTHERY'S mind was a whirl. Honeyford had this all planned in advance—for the 27th. You can see how the man gets results. He is a regular dictator, even though he is a crook. A born leader.

"Come on, you two—let's go." Honeyford raised his great bulk and went for his hat. "We may not have

much time if you're telling me the truth," he told Rothery. "And God help you if you're not."

On the way through the reception room he told the red haired girl to notify all the offices and the building management that the elevator service would be halted in a few minutes for a short time but there was to be no alarm. Everything was all right. The girl's spots of rouge stood vividly circled against the sudden pallor of her skin. She had been listening in on telephone conversations.

"Good heavens—look!" Nora Hennessey pointed a shaky finger into a corner of the room, where a crack was lengthening in the plaster. "He's started it."

A faint tremor could be felt in the floor beneath them. The red haired one was babbling into the microphone, choking back her sobs. But she stuck to her post.

"Order my limousine, too," Honeyford told her.

Then they were in the hall, he and Rothery and Nora Hennessey. An express elevator, luckily, arrived before the office doors could spew forth a panicky mob into the halls. For panic there was bound to be, in spite of the efforts of the sorrel-topped girl. The car dropped them swiftly streetward.

"It won't be long now," Rothery breathed, consulting his watch.

"The power'll be off in four minutes," Honeyford returned. "But there'll be hell up above before that. Can't be helped. He can't tear it down in four minutes, can he?"

"I don't know." Beads of perspiration were standing out on Rothery's forehead, but his voice was steady. Though he recoiled automatically at the first touch, he permitted Nora Hennessey's hand to rest on his arm. All of her courage seemed to have oozed out.

"Main floor," said the operator, as the car came to rest and its door opened.

"Leave the building at once," Honeyford told the boy. "Leave the block."

As they hurried toward the 34th Street entrance a faint crackling sound could be heard from high overhead. Rivets were giving in the steelwork, plaster and masonry being displaced. Loud shoutings were wafted in from outside. Honeyford's orders had procured swift action of the police.

THE ten-man squad was guarding the doors as they came out. And mounted police were clattering down the street. From overhead came the bawlings of the police vocaplanes, heard over the traffic noise and the shoutings of pedestrians.

"We're safe," grunted Honeyford, glancing at his wrist watch.

"I wonder," retorted Rothery. Above the din of the street, he distinctly caught the sound of rumblings and rendings high overhead.

Honeyford's limousine pulled up at the curb. The officers made a way for him to pass. He was inside, waving a fat hand. But the press of traffic was too great to permit his chauffeur moving the car at once.

Rothery tried to look up the tall expanse of wall and windows that was the building front. Of course no deflection was visible to the eye. That would not be until after the structure was doomed to destruction. One thousand two hundred fifty feet above, the top would have to sway inches, feet, before it would be visually apparent from below. And by then . . . wonder if the energy can act that quickly. God, what an age it takes to get moving and away. The four minutes *must* have passed. Time is standing still.

"Clear away from the Empire State building northward!" The huge ampli-

fiers of the little police helicopters bel-
lowed from just above them. "Go west
toward Sixth or east of Fifth! Orderly,
now."

"Where to, Mr. Rothery?" the police
lieutenant Honeyford had introduced
was asking him. Different attitude
from the police of yesterday.

"Bryant Park Station. Sixth Avenue
sub," he found himself replying.

"Clear all cross streets between Fifth
and Sixth," vocaplanes were chanting
monotonously.

The lieutenant glanced down the
street, which was now filling with
swarms of the panic-stricken who
poured out of the buildings. The voca-
planes were bawling still more insistent-
ly overhead, hovering just over the
tops of the cars that were moving so
slowly. The lieutenant hailed one of
them, when, for a moment, its ampli-
fiers were silent.

"Pick us up!" he roared.

His squad spread out, clearing a
space on the sidewalk from curb to
building walls, thrusting back the press-
ing mobs unceremoniously. The little
helicopter settled daintily to rest on its
landing wheels.

"Can't take more than four," the
lieutenant told Rothery.

"Won't need more. It's too late now
to stop Korloff's work. But we can
catch him."

Three officers pushed into the small
cabin with Rothery wedged in their
midst. Somehow, Miss Hennessey was
there, too. She's a sticker, at least.
The canyon of 34th Street seems clut-
tered with helicopters. The crowds are
streaming toward the Avenues, noisy
and disorderly, but keeping on the
move.

Rothery stared up the face of the
Empire State as the vocaplane rose
swiftly, vertically. He yelled at what
he saw. No deflection could be ob-

served yet, but already the building
walls were commencing to crack. A
huge section of coping broke away and
started its long descent from the first
vench, still high up. It was followed
by a shower of loose fragments.

"Look out below!" Rothery grabbed
the microphone and yelled into it.
"Clear away from the Empire State.
It's falling!" His warning echoed
thunderously with those of others from
above and below.

That block of granite dropped
swiftly, but to the eyes of the watchers
it appeared to drift ever so slowly
streetward. Hundreds of throats
seemed about to split with screaming.
The vocaplanes bawled hysterically, car
sirens blasted.

Then the great stone had landed with
a crunching roar, flattening a limousine
and smashing down through the pave-
ment. A single piercing shriek rose
high and was stilled with the crash.

Honeyford's car. Honeyford's death
cry!

Rothery had seen him try to get
through its door just before the crash.
He had failed. Jeremiah Q. Collins
was avenged.

CHAPTER VI

Korloff

THEIR helicopter rose swiftly now,
clearing the rooftops on the north
side of 34th Street. Below, it could be
seen that the police were getting the
traffic under control. The space north
of the Empire State was well cleared as
far as traffic on wheels was concerned,
eastbound traffic having been stopped
midway of the block. This was true of
35th Street, 36th, 37th as they sped over
them. There were still a few scurrying
pedestrians in the area. Midtown was
literally alive with police, mounted and
on foot and in the busy vocaplanes.

As the helicopter carrying Rothery and his companions shot toward Bryant Park a whole section of the Empire State's wall fell away from above about the 70th floor, showering downward. Slowly, slowly, it seemed, bringing shrill cries soaring to meet the falling debris. And baring, like a gaunt skeleton, the upper steelwork.

"The tower!" cried Nora Hennessey. "Look!"

Shorn off at the base, the tower was toppling. It, too, seeming to hesitate in midair before breaking up and plunging to the lower rooftops in the two blocks to the north, thundering in their midst, crashing through. Dust clouds rose high with the fearsome wail of thousands.

Looking further north, it could be seen that a similar breakage of the south wall had taken place at Radio City, though the tower of the R.C.A. building, not so high nor slender, had held. So far, it had. As Rothery looked, a great section of masonry broke loose and rained down. He could almost visualize the enormously powerful field of force acting between the giant structures. A sudden double thunder-clap smote the ears and the two buildings whipped back visibly toward and past the vertical, again showering the streets and exposing more stark steel frame, sagging floors and broken partitions. At the same time all airpowered traffic in the streets below them came to a standstill.

And all of this had taken but four minutes in the happening!

"It's all over. No more danger!" an officer was calling into the microphone as their helicopter dropped into Bryant Park and the crowds fell back to give them room.

Other darting vocaplanes took up the cry. Order would soon be restored in the hopelessly disorganized midtown section.

Rothery led his little army into the subway station. An order to the track superintendent brought stoppage of all trains between here and Fiftieth Street station. The subways use cable-carried power, Rothery remembered.

"Where's the old power substation?" he asked the gaping super.

"About 200 feet up the northbound local track," he was told. "Through a narrow passage you can't miss."

The officers jumped to the track, Rothery and the girl at their heels. Skipping the ties, they scurried northward in the dim light, a few subway employees trailing them at a timidly respectful distance.

There was no difficulty in locating the passage mouth. The police went in first with flashlights. Rothery helped the girl from the tracks and they followed.

Miss Hennessey sniffed the air. "Smoke!" she declared. "It smells like burning insulation."

"It sure does." Rothery had a sudden hunch. "And I don't think what we'll see will be nice to look at."

It wasn't. The old substation, a cavernous place where large rotaries that were now replaced by compact vacuum tube rectifiers in the station proper had once converted the cable-transmitted high tension A.C. into lower voltage direct current for the tracks, was a shambles. Smoke-filled and littered with wreckage, it looked as if it had been struck by lightning. There were two portable frequency converters that bore unmistakably the mark of Pete's handiwork, one of them whole and still running, the other fused and shattered beyond recognition. And the remains of what had been a casket-like white metal container, from which had spewed a motley assortment of smashed and melted vacuum tubes, helices, condensers and whatnot. The arm of a man projected from underneath an over-

thrown section of heavy metal. It waved feebly.

The officers quickly dragged out the battered form of a man. It was Korloff. Horribly burned about the face and shoulders, his chest crushed, he still breathed.

His eyes opened. Glazed as they were, they fell upon little Miss Hennessey with recognition. "Nora," the stiffening lips whispered. "I'm sorry. I lied to you. I'm not—I didn't—"

Korloff's head fell to one side. His body jerked convulsively once and was still. If Jeremiah Collins had been avenge, so had Victor Honeyford.

LIEUTENANT DONAGHUE of the special detail asked only a few questions of Rothery and these he answered to the best of his ability after examining the wreckage.

"Here's the story, lieutenant," he said. "The buildings were pulled toward each other by an attraction force field set up by whatever apparatus was in the white metal box. That secret is destroyed, thank God. The force field apparatus was energized by the two separate power frequencies, one from the wrecked converter, the other from the one that is still workable. I should say it was a heterodyning of the two frequencies that was put to work, the

Cracks appeared in the trembling structure, granite blocks tumbled downward like an incredible dream of horror.



beat note."

"Yeah? But why was only one converter busted up? And what did it?"

"See the battered collecting sphere? *This* one was collecting broadcast power, which Honeyford ordered shut off. See these cables? This other one was collecting subway power, so the theft would not be so noticeable as if both demands for power were from the one source. This wired converter continued to operate and its heavy capacity reacted through the heterodyning apparatus to destroy both it and the air-powered converter—and Korloff."

"Yes, Korloff." Lieutenant Donaghue covered the dead man's face. "Well, there'll have to be a report. Do you mind coming to Headquarters in the morning, Mr. Rothery, to explain some of this? I forget it already."

"Be glad to come. Ten o'clock?"

"Right. And you?—Miss—Miss—"

"Hennessey is the name. We'll be there."

"That's all, then." The lieutenant snapped his notebook shut and pocketed it, started for a telephone to advise Air Power to resume.

FIFTEEN minutes later, having taken a helicopter speedcab to avoid the still unsnarled street traffic, Rothery and the girl sat in her living room. Rothery was glumly silent, Nora Hennessey nervous and ill at ease.

"You promised me a chance to explain," she pleaded.

"I did. Go ahead."

"First though, *please* tell me about Mr. Collins. What happened to him? Is he all right?"

"May I use your phone?"

"Of course."

Rothery dialed his home number and asked a few questions of the nurse, thanked her and thoughtfully replaced

the instrument.

"Oh, tell me about him," the girl begged. "He's frightfully ill, isn't he? I can tell."

Still extraordinarily concerned about Pete, she is. Must be a deep attachment here—an understanding, maybe—well . . . Rothery told her in a few words what had happened to Pete. Told her the nurse said he was resting comfortably, that it looked hopeful.

"Oh, I'm so glad," breathed Miss Hennessey. A suspicion of moisture was in her wide eyes. "And so sorry it happened. But, now to explain to you."

"Just a minute," Rothery interposed, taking a ridiculous bit of linen and lace from his pocket and handing it to her. "Is this yours?"

"Why, why, yes. Where did you get it?"

"Found it in my place—after it was ransacked this morning."

"John!" It was the first time she had used his given name. Must have been a slip. "You—you don't think I—"

"What else could I think?"

"I suppose it did look that way. But I did *not* search your place. It was Korloff. I was following him; that's why I couldn't meet you as we'd planned."

"How about the trap you sent me into over on 57th Street?"

"Trap?" The girl's surprise was obviously genuine. "What sort of a trap?"

Feeling a little foolish, he told her about the fight.

"John, how awful! So that was what papa meant when you talked to him—those were *his* men."

"Papa?" Rothery cocked an inquiring eye.

Miss Hennessey's pallor quickly changed to a becoming flush. "I forgot. There really is a lot to explain, isn't there? Victor Honeyford was my stepfather."

"So!" Rothery's eyebrows raised.

"You promised to let me explain."

In spite of his doubts of her, he was forced to grin. She is so naive, just a kid after all, hardly past voting age. "Shoot," he told her, with all the indulgence warranted by his recently acquired extra year of seniority.

HE listened in solemn silence to her story, only on rare occasions interrupting her with an exclamation of surprise or a question. And when she had finished, he was forced to believe. He wanted to believe anyway and it was too obviously the sincerity of truth she displayed.

Her own father had died when she was very young and her mother had remarried, taking the name of Honeyford. But her mother, too, had passed away a few years later, leaving Nora a modest income and making Honeyford executor of her will and Nora's guardian until she became of age. They had not gotten along well at all, Nora and Honeyford, though she continued to call him "papa" from childhood habit. She had left his roof and taken her own apartment as soon as his guardianship ended. Astonishingly, that was at the time she went to work for Collins and Rothery, three years ago. Why, Nora was 24! Rothery was not as old as he liked to fancy.

Her mother's maiden name was—Korloff! The man who had died in the power substation was Nora's uncle. And he had been a renegade—the black sheep of her mother's family. For years he had frightened the girl with threats that he would reveal an old family skeleton. He had letters and papers, so he said, that she had time and again tried to get him to show to her. For weeks, lately, he had been using this as a club to force her to spy on Collins; she had pretended to do this, actually trying to learn nothing at all, but at the same time secretly disturbed and distracted con-

tinuously. But Korloff had lied; there was no family skeleton; that was what he had meant when he died—the only decent act of his life toward her.

"I don't want to know your family history," Rothery told her. "Just tell me about the past few days."

Korloff, she continued, was afflicted with dementia praecox, paranoid type. He had a driving persecution psychosis, and this she had known since his break with Honeyford had come to an acute stage. He, of course, was as much a victim of Honeyford as was the elder Collins, though in a lesser amount. She had tried to follow his every move for some time past; his demands that she spy on young Collins making it easier to spy on Korloff instead. She had known of the Collins-Honeyford differences for a year or more but had wanted Rothery's opinion when she feigned ignorance on the morning after the suicide. And she had known right along that Korloff was spying on Peter Collins. That is how she had found out about the 57th Street place and about many other things. Korloff it had been, of course, who had visited Pete the night of the funeral, and Korloff who had searched both his and Rothery's rooms, looking for data on how to operate the apparatus he had already located in the reaches of the subway. He must have beaten this information out of Collins in the fight in which his skull had been fractured. Korloff had eluded Nora this morning after leaving Collins's house and she never did find out where Pete's machines were hidden until she had gone with Rothery and the police. For that matter, neither had Honeyford located them.

After Korloff had evaded her pursuit of him she had gone direct to Honeyford. At times he was tractable and even over-indulgent—like in the jail matter—and she had gone to beg his

help and influence in warding off the disaster. To tell him of what Korloff was seemingly up to, though not knowing such details as Rothery had learned. She, too, was primarily concerned with the certainty that many innocent lives were threatened. She wanted Honeyford to work with her, with Rothery, not against them, and had just about begun her story when Rothery himself arrived. The rest he knew.

"Yes, the rest I know or can guess. You poor kid." Rothery looked at her with compassion, with a sense of shame. "Sorry I doubted you."

"I don't blame you. It did look queer. But you see I *couldn't* take you into my confidence. I was afraid of that family skeleton and of what Korloff might reveal."

"You were quite within your rights. Though I wouldn't have cared what Korloff might say." Rothery sat smoking thoughtfully. He felt suddenly limp, was at a loss what to say.

A newsboy in the street shouted an extra. The girl ran to the window, called for him to bring one up.

They read only the headlines and sub-heads. Besides Honeyford and Korloff only seven had been killed, though hundreds were injured in the panics. It was a miracle. There might have been thousands if the wreckage had been complete. Of course, the damage to the two large buildings and to those struck

by falling debris, as well as to trucks, pleasure cars, cabs, the streets themselves, ran into millions in money. But both of the involved buildings were susceptible of repair and would be perfectly safe. The smashed roofs as far north as 36th Street and those between 48th and 49th, as well as the caved-in pavements, broken curbs, wrecked cable ducts and water and gas lines, likewise could be repaired or replaced. It meant only time and the expenditure of money.

"So," said Rothery, as he folded the paper and put it away, "that is that."

"Haven't you anything more to say?" The girl's hand had brushed his while they were reading. He was still thrilled by the contact. Accidental, of course.

"Nora," he stammered, "you—you and Pete. Is there—" For the first time he realized that they were seated side by side on the sofa, he and Nora. The fragrance of her hair was in his nostrils.

Strangely but entrancingly, she flushed. Her eyes, starry with laughter and with something else, were looking up at him. "John," she whispered, "you *have* been blind. I let you think that I liked him only because I wanted to stir you up; I did it deliberately. Is that enough for you to know?"

It was enough. John Rothery demonstrated conclusively that he was no longer backward.

The End

WATCH FOR THEM IN COMING ISSUES



Robert Moore Williams—Arthur R. Toffe—Ed Earl Repp—Fredric Arnold Kummer, Jr.

Harl Vincent—John Beynon—Thornton Ayre—Polton Cross—F. Orlin Tremaine

Nelson S. Bond—Edwin K. Sloat



GREAT WRITERS WITH GREAT STORIES

« « PERPETUAL CALENDER » »

Now and again we have a desire to know what day of the week a certain date in the future will be. Authors have made errors in calculating future dates in science fiction. Readers have asked information on the day of a certain date. Here is a system of calculation which will make it easy for all to discover the facts about any future date.

The tables are simple to use:

To the given year add a quarter of itself, ignoring fractions. To that sum add the index figure of the century (Table I), the monthly index figure (Table II), and finally the day of the month.

Divide the total thus obtained by 7 and the remainder will show the day of the week (Table III).

An example should make everything clear. Suppose we want to find out on which day of the week March 10, 2339 will fall. Then: Year (use last two digits of year only) equals 39, plus $\frac{1}{4}$ of a year, or 9, equals 48. Adding to that the century index, 5, and the monthly index, 6, and the day of the month, 10, we get 69. 69 divided by 7 equals 9 with a remainder of 6. Thus, from Table III we find that 6 equals Friday. March 10, 2339 will be a Friday.

TABLE I

0	1	2	3	4	5	6
200	100	000	600	500	400	300
900	800	700	1300	1200	1100	1000
1800	1500	1400	—	1600	1900	—
2200	—	1700	—	2000	2300	—
2600	—	2100	—	2400	2700	—
3000	—	2500	—	2800	—	—
—	—	2900	—	—	—	—

TABLE 2

Month	Index	Month	Index
January	3	July	2
February	6	August	5
March	6	September	1
April	2	October	3
May	4	November	6
June	0	December	1

N.B.: In Leap Years the Index figure for January becomes 2, that for February changing to 5. The other figures remain unaltered.

TABLE 3

Saturday.....0	Tuesday.....3
Sunday.....1	Wednesday.....4
Monday.....2	Thursday.....5
Friday.....6	

JOHN HALE'S *Hollywood Mystery*

By **ED EARL REPP**

CHAPTER I Invisible Death

DR. JOHN HALE could feel the tension building swiftly in the little projection room, mounting higher and higher like the whine of a hand-saw through sheet brass. The six persons gathered there in the tiny theater on the Vita-Craft Studio lot sat tense on the edge of their seats. The room was a mere cubby hole, oblong and windowless and thickly padded with sound-proofing. It was a typical Hollywood "rush" theater where studio executives, writers, actors and directors view the day's takes.

Doc Hale's nerves, not the jumpy kind, leaped with a ragged tingling as the projection machine in the cubicle behind him began to drone. The lights flicked off and the room became black as a tomb. Hale's sombre eyes, owl-like behind thick spectacles, grew watchful at once.

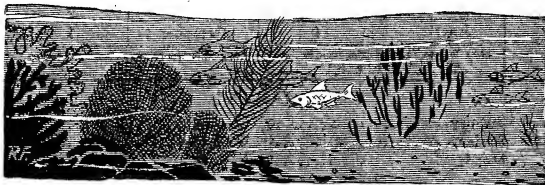
A stab of light shot from the pro-

jector and played on the screen. A pale illumination routed the Stygian darkness. Figures began to move on the screen. Voices leaped into the gloom. Yet Hale had scant attention for the scenes unfolding. His probing eyes were on the men about him . . . important men in the motion picture industry, but as frightened now as the commonest sneak-thief under the white glare of a police line-up. And Hale felt they had reason to be scared. . . .

For one of them was doomed to die in the next twenty-four hours.

For a moment, then, Hale's mind was flashing back to remember the conversation that had brought him here—to try to save one of these men from a weird, relentless vengeance. He had been about to leave for Laguna Beach, where he was looking forward to a restful week-end in his palisade cottage, when Charlie Griffin called on him.

The big, red-faced Detective Lieutenant stood in the doorway for a mo-



John Hale finds a celluloid ghost in a Hollywood studio — a ghost from the depths of the sea who brings fiery death to those who invade his domain

ment, glancing at Hale's bag, before he asked sheepishly, "Goin' away, Doc?"

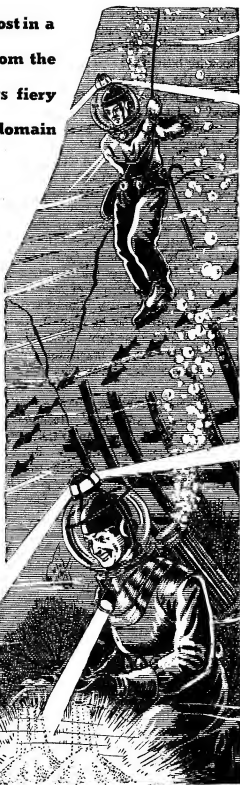
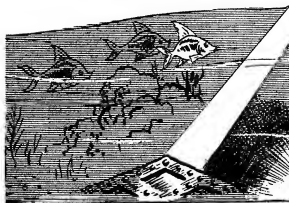
Hale explained. "I've been working sixteen hours a day," he finished wearily. "Two days rest will seem like a summer vacation." There were indications of weariness in his spare, slightly stooped figure. The bony shoulders slumped a little. His gray tweed suit hung shapelessly from his frame, as if he had worn and slept in it for a week. His thin features were pinched, his short, dark hair uncombed. But sparks of vitality still glittered electrically in his blue eyes.

The detective looked uncomfortable at his words. "That makes it hard, Doc," he growled. "You look sort of fagged at that."

"Trouble again, Charlie?" Hale asked, and set his bag down.

Griffin grinned, remembering the last

We found *gold*, millions of dollars worth, lying on the ocean floor!



time he had asked John Hale's help on a case. That help had saved him his job and convicted a killer. But he shook his head now. "It ain't me thta's behind the eight ball this time," he scratched his head. "In fact, I'm supposed to be on my day off too. It's a funny kind of business the department wouldn't touch. But—well, I got it in my thick skull that a man's gonna die sudden, unless you can help—"

Tiny lines pinched about Hale's eyes. In one instant the vacation had dissolved into the substance of dreams. But against his chagrin he found a quick curiosity. Charlie Griffin never bothered him unless the matter was vital. The big police officer knew Hale was in as fascinating and almost as dangerous a business as he himself, knew how busy he always kept. So it had to be something pretty important before he called the "Laboratory Sleuth."

YEARs ago Hale had been an independent laboratory technician, earning as much as a man in that position could ever hope to make. But his brilliance won notice from a widely-read newspaper columnist, who spoke of him as the "Laboratory Sleuth." Hale's fame and fortune dated from that day and that column.

Now he seldom took a case unless at least a dozen other scientists had failed to solve it. His "cases" might range from a search for a non-explosive solvent for celluloid to a hunt for a murderer. When a famous archaeologist died mysteriously, it was Hale who found the dread "radiation" machine near his home, that had sucked the very life substance from his body—and it was the Laboratory Sleuth who sent his killer to his own death.*

* John Hale solved this mystery in "The Curse of Montezuma," in the May issue of *AMAZING STORIES*.

In almost every field of science, the man's influence was felt at some time. It was not surprising that Hale's minimum fee for trifling with a case was five thousand dollars; nor was it surprising to those who knew the character of him that his fee to his friends was written in ciphers—and Charlie Griffin was a friend.

"It's somethin' like that ghost business you got mixed up in a while back," Charlie was saying now. "Only that turned out to be 'frozen light' and this one's even less solid than that. Why, Doc, these guys at Vita-Craft couldn't even see or hear the ghost that's threatening them!"

Hale could not repress his chuckle. "Then what are they worried about? If you can't see or hear a phantom, how do you know it exists?"

Griffin hastened to explain. "It's this way. Vita-Craft's the biggest studio in the world, and right now they're making the biggest picture they've ever tackled: 'The World Beneath the Sea.' It's costin' five million. Now the actors are threatening to quit and the producer and his stooges are scared stiff. Y'see, last night they all crowded into that little theater on the lot and ran off the rushes. Right in the middle of it, a guy in a funny mask struts onto the screen, across the actors and everybody! His voice drowns out all of them. I've seen it myself.

"Maxwell swears it a trick of somebody's, and bein' the chief he's got the right to refuse the case. But I've heard that 'ghost' threaten Payson, the producer, and I'm convinced he means business. The whole crowd out there swears they didn't see anybody else on the set with them, and nobody heard him. Yet when they developed the pictures, there he was in front of 'em!"

Hale rubbed his long chin. "Some of the lab men," he clipped, "must be

playing a practical joke. Probably a double exposure."

"But they couldn't double expose the sound track!" Griffin argued. "That would blur all the other voices. No, sir; that fellow was standing right there in the middle of them when they acted out the scene! And they didn't see or hear him!"

Dr. Hale experienced a prickling sensation up and down his spine. He frowned down at his bag, dropped it, and with his foot shoved it aside. "Charlie," he gritted, "some time you're going to go too far with these cases of yours. I'm just waiting for the proper time to dissolve you in hydrochloric acid and pour you down the drain as a pink precipitate. You'll have to admit I'd be justified this time!"

Griffin grinned, exposing a full set of strong, white teeth. "Sure you would, Doc!" he agreed. "But right now, let's go!"

BEFORE they left, Hale fortified himself with a quart of milk and stuffed his pockets with the powerful black cigars he smoked. It was the only formula he had found to keep himself going when exhausted: Gallons of milk and boxes of cigars. With a hip flask of milk in his back pocket, he left the apartment.

And now, as he sat in the darkness among the heads of the great Vita-Craft studio, he was glad he had come. For in their nervousness he read substance into Charlie Griffin's ghost.

He watched Karl Reinhart, publicity director for the corporation, jerkily clench and unclench his fists. Sweat stood out on his lofty forehead. His long, bony face was ghastly. According to Griffin, Reinhart owned one-fourth of the company's stock and was responsible, by his advertising genius, for much of its success.

Otto Garner sat beside him. Garner was a large, powerful man, his bald, swart head resting on thick shoulders. In his hands he wadded a balled handkerchief. His features were heavy, resolutely set as he scanned the screen.

Garner, Director-In-Chief over all the company's productions, was famous as the man who had directed nine-tenths of the great pictures of the last four years. And it was he who had directed the scene they were watching now.

At Hale's left was a small wizened individual. The shrewd intellect of Vance Kimball, "The Brain," as he was known on the Vita-Craft lot, was buried in a shrunken, ugly head that clung by virtue of a red, turkey-like neck to a pigeon-chested frame. Kimball's body was scrawny and unbeautiful; but it was animated by a mind as sharp as a scimitar and as relentless. When the studio was sued by libel, it was he who probed until he found—or contrived—some uncomfortable incident in the life of the accuser. Vance was lawyer, counsellor, field-marshal for Vita-Craft.

Directly behind the Laboratory Sleuth sat someone who breathed noisily and squirmed constantly in his seat. Hale's memory conjured again John Payson's look of terror when he asked him to be present at a second showing of the mystery film. For it was Payson whose life had been threatened—Payson, president of the corporation.

Payson was a big man, with most of his weight resting about his middle. His hair was white, his brows a black bar over keen gray eyes. His jaw was the strong one of a fighter; today, however, it looked as flabby and loose as his lips.

Hale's attention finally centered on the screen. The setting was a strange one, filmed in a weird green light. It pictured unearthly buildings set in an undersea city. Hale remembered then that a large part of the picture had actu-



A huge alien figure lurched onto the screen. Straight through the action it strode



ally been taken under water, off the eastern coast of Lower California.

At the entrance to a dingy alley a mock fight was taking place between two men in futuristic clothing. They wore no masks, for the "City Beneath the Sea" was one covered by a giant glass dome. Near the fighters waited two other hostile groups, each one cheering on their own man.

Then, suddenly, every man in the theater went rigid, as an alien figure lurched onto the screen. Behind Hale, John Payson leaped to his feet with a choked cry.

The apparition was a fantastic one, its face hidden by a sack-mask, and what appeared to be huge, globular pistols in its hands. Straight through the actors it strode, stopping in the center of the action. Yet every movement of the fighters was visible through the wraith.

The voice, when it came, leaped

R. Fuqua-

through the actors' babble like a shout among whippers.

"In the midst of life there is death!" came the deep tones. "Death—for you, John Payson—before another day is over!"

CHAPTER II

Death on the Set

BEFORE the phantom dissolved before their goggling gazes, Payson was shouting. His white shock of hair shook wildly.

"Turn it off!" rang his excited shout. "Turn on the lights!"

The picture ended abruptly and light flowed into the room. Payson, gray and flabby, panted at John Hale,

"All right! Now you've seen it. What is it—a ghost? a trick?"

Hale paused to set fire to a cigar before answering. "I don't know," he said quietly. "But tell me this: Which one of you four gentlemen is interested in science?"

He needed no answer to read their minds. For every eye swung instantly to Otto Garner, the heavy-featured director.

Vance Kimball piped, "Paging you, Garner."

"Well?" the director shot back. "Is that a crime, to be an amateur physicist?"

"As far as I can see," Hale replied, "crime doesn't enter in here—yet. To threaten murder isn't to achieve it. I was merely pointing out that whoever the masked man was, he apparently had access to scientific equipment. The 'guns' he wielded were nothing more than cathode ray tubes! Do you own such equipment, Garner?"

Garner slowly crossed his arms. "I not only own cathode tubes, I own X-ray tubes, a thermion tube, and a

dollar-ninety-five sun lamp," he rasped. "But, unfortunately, my laboratory is on the lot, and I seldom lock it. So any one of our five thousand employes might have got at them. The only time I'm there to keep guard is when I'm working during my spare time."

For the first time, Payson seemed to quiet his nerves. Anger came rushing in to replace the fear. "By God, Garner, if you're back of this—" he exploded.

Garner laughed harshly. "Are you going to work yourself into a lather because this test tube cop gets himself an idea?" he asked.

Hale's long arms drew up a little, then relaxed. He could stand almost anything but being called a test tube cop, as certain reporters referred to him. With admirable restraint, he said, "Letting my idea go for a moment, let's get down to business. I've been asked by the police department to assist on this case; otherwise I'd be willing to let matters take care of themselves. I'm going to ask you to re-shoot that scene for me."

"Shoot it again!" Payson howled. "With that—that *thing* standing in the midst of us? I—I doubt if the actors would even do it."

Kimball's shoe-button black eyes glittered amusedly. "Ain't giving up the picture, are you, John?" he inquired shrewdly. "Let's see now—we've sunk about three million in it, haven't we? If you let the actors run out on us now—"

Payson was transformed. His features hardened. "By damn, they'll have to do it!" he roared. "We've got 'em on contract. If they walk out now—Reinhart, round 'em up, will you? You can handle 'em better than the rest of us."

Hale had to smile at the way he had suddenly changed. Yet as his glance

fell on the hard-eyed lawyer, he realized there was keen self-satisfaction there . . . as if Kimball, too, was relieved at the way his strategy had won the president over.

IT was nearly an hour before the technicians and actors were gathered in the big, barn-like sound-stage. Hale stood near the door, alone, watching Garner herd a dozen actors into their proper spots before the alley-set. The two false walls forming the alley mouth were set at the extreme rear of the building. Just over the spot where the principals were gathered hung a microphone from a crane. Payson, and Kimball occupied chairs just in front of the metal cubicle which housed sound and camera equipment.

Charlie was circulating around, watching nothing in particular, seeing everything. Then Hale's arm was tapped by someone who had approached from behind him. His nerves jerked like plucked fiddle strings.

Karl Reinhart, looking more like a hollow-eyed undertaker than ever, nervously drew him behind a movable partition. His mouth was compressed to a thin, pale line.

"They'll start shooting in a minute," he gulped. "I've got to tell you this before they start." He was dry-washing his hands with such force that Hale winced, expecting the crack of bones.

"Why didn't you tell me before?" the scientific detective asked severely.

"Before that—that pack of wolves?" Reinhart hissed. "Don't make me laugh. Now listen, Hale. I'm going to talk and you listen. Last week we were shooting underwater scenes off Montague Island, in the Gulf of California. Kimball and I went down in diving suits just out of curiosity. That spot, you know, is right where the Colorado River empties.

"Well, all of a sudden we both spotted a great patch of shining stuff lying on the sand. Both of us got handfuls of it to take up. When we got near the surface we saw what we'd found—*gold!* We had the presence of mind to conceal it from the workmen, but while we were examining it, Garner and Payson spotted it."

"Gold?" Hale echoed. "Gold—*on top of the sand?*" His cigar jutted up.

Reinhart's cadaverous skull tilted in a slow nod. His bony hand dipped into a coat pocket, emerged holding a small bottle filled with glittering crystals. This he handed over to the scientist. "Let me finish," he rushed on, as a warning bell sounded somewhere. "We agreed to keep still about it, the four of us. Obviously, there must be acres of the stuff down there, washed down by the river in the countless centuries it has flowed in its course. Millions of dollars—for the taking! We were to return as soon as the picture was ended and start dredging for it. Only the four of us know about it . . . and you, now."

Abruptly, his face twisted malevolently. "That damned, skinflint little runt! The Brain, I mean. He resented their cutting in on it, as if there wasn't enough for all of us. I tell you, Hale, you'll watch him if you're smart. It isn't just Payson he's out to finish. It's the whole gang of us!"

Then, with his sibilant tones still in Hale's ears, his drawn, white features still before him, he rushed away. With great strides, his long arms flopping loosely, he disappeared behind a mass of properties. That picture of the famous publicity director was to remain with Hale, for it was the last time he ever saw him alive. . .

Hurriedly, then, the scientist joined the actors and officials. Charlie was at the door, locking it against the entrance

or departure of anyone. He sat down by Hale when he had finished and the flood lights sprang on.

"Tight'n a drum!" he whispered. "If that ghost appears again, he's right here beside us now!"

Payson must have heard his ominous prophecy, for he snarled, "Quiet, dammit! We're shooting."

The spell of tension rode plainly over the actors. Their lines were without feeling, their actions awkward. They kept glancing fearfully out at the men sitting before the camera, and at Garner, who walked silently about watching them.

Hale's eyes were for Kimball, sitting hunched at the edge of the set. His ugly little head was canted forward on its skinny neck. But there was nothing about his attitude to arouse the detective's suspicion.

The thought grew in Hale's mind that whoever managed to contrive a ghost now, with the attention of a dozen persons on the scene, would need the cleverness of an Einstein—or a fiend. Suddenly it came to him that Reinhart had not appeared.

Almost in that very instant, a shriek sheared the sound of the actor's voices. It seemed as though every being in the sound stage had been frozen into stone. Sound and action utterly ceased. The actors in their fantastic costumes hung as if painted against the wall behind them. Garner, Payson, Kimball, Charlie Griffin, and Hale stiffened.

Hale was first to move. His springing from the chair was the signal for panic to lash the frightened actors and technicians. Their yells and running feet were a far-away sound in the laboratory sleuth's ears, for his nerves were straining toward the source of that heart-arresting scream.

In the next moment, as he rounded a thin partition, his long legs dragged

him to a stop. His gaze locked in horror on something that lay beneath a Klieg lamp. A smoking heap of burned clothing—a blackened cinder—a reeking, nauseating shell that had once been a human being . . . Karl Reinhart—

CHAPTER III

Meddlers Not Wanted

THE scientist was still standing that way when they found him. His angular visage had gone a peculiar gray-white. His eyes were haggard. And he was holding a handkerchief over his nose against the odor of burning flesh.

A dozen pairs of horror-filled eyes joined his in staring at the remains of the publicity man. A crackling sound became evident, as when a bone, heated red hot, is allowed to cool. It was that sound which caused John Payson to break down and scream, then start shaking all over.

Hale pivoted, smashed his hand across the producer's face, and spun him about. "Cut that out!" he snapped. "Be glad it was Reinhart, not you. Charlie, have everyone here taken to the station and detain them as long as you can. I'll take Payson, Kimball and Garner to the lab with me and start to work on that film. Hurry back; I may need you."

In a surprisingly brief interval, the sound stage was emptied of all save Hale and the body of Reinhart. The three officials were waiting outside in the custody of a studio officer.

The detective's mind was plunging at top speed. What could possibly cause the cremation of a man as suddenly as it had happened to Reinhart? Electricity—but where were there any high power wires? Wherever he looked, there were only the usual 110 and 220 volt outlets.

Hale felt better after he took out his hip flask and had a long drink of milk. Perched on a high stool he found, he lighted another stogie and divided his time equally between it and the flask. Once more his shrewdness began to come back to him as the stunned sensation left his brain. A frown creased his brow.

Suddenly he slid to the floor, left the building by a back door, and hurried to his car. Shortly he was back, carrying his little black surgeon's bag. Hale would have felt lost on a case without it. Crammed within it were thousands of dollars worth of valuable scientific instruments, many of them of Hale's own invention.

For the first time, he submitted the Klieg light to a close scrutiny. Starting at the floor plug, which he found provided only an ordinary voltage and amperage, he examined the box-shaped affair with care. When he had almost given up, he discovered a single discordant fact.

The big, rectangular lens was a trifle loose in the frame. Testing all the way around with a thickness gauge, he determined that it lacked exactly one-fifth-thousandth of an inch of fitting, at all points. The exactitude of that discrepancy jarred against the laboratory sharpness of his brain.

Deftly he removed the lens, frame and all. His long jaw became ridged with muscles with the discovery that the inside of the lamp, where the frame would touch, was studded with minute electrical contacts. Scowling with the effort to account for that, Hale replaced the glass.

Jumbled thoughts began to fall together in his mind. Picking up his bag, he left the corpse and found his way across the set to a point diametrically opposite to that at which Reinhart had died. As he had expected, John Hale

found a second Klieg light here. Its lens, too, was just a shade loose in the bracket.

The scientist stood there for some time, oblivious to the fact that his cigar had let fall a two-inch ash on his vest. When at last he moved, he made his way to the switchboard, plunged the big building into darkness, and moved gingerly back to the seat he had occupied during the filming of the scene. He sorted among spectroscopes, thermometers, and various scientific odds and ends in his carry-all until he found his miniature camera.

He exposed six different squares of film in the direction of the set. Then, finally, he replaced all his paraphernalia and went out to join the others.

THEY had not been in the huge developing laboratory long when Charlie Griffin entered through the light-trap door arrangement. He groped his way to where Hale stood by a long developing tank.

"Never saw a bunch of guys so eager to be put in the jug," he muttered. "You'll have to dynamite when you want 'em out. Any idea what happened to Reinhart?"

"A vague one," Hale returned softly. "I can tell you this much: The murderer is in this room with us right now!"

"Yeah?" Griffin whispered. "Who is it, Doc?"

Hale shrugged. Ruefully, he said, "I wish I knew, Charlie—I wish I knew!"

Then, except for the hum of motors and the gurgle of developing fluid, it was silent. By the dim illumination of green bulbs, they could barely make out lab men working with the reel of film. The long strip of celluloid was automatically spun through a long developing tank, then through clear water, and finally into the fixing solution.

Hale took advantage of the hour-long

wait to develop his own pictures in the same tanks. But all the time his attention was riveted to the workmen and the three frightened directors. Not for a second did he allow one of them to approach the film without hurrying to join him. Nothing was going to happen to that scene that had not already happened.

It was dark when they emerged from the laboratory, but to their eyes, sensitized to the extreme lightlessness of the dark-room, it seemed like broad daylight. Hale carried the can of film. He saw to the installation of it in the projector, locked the projectionist in the room, and signalled for the scene to be run off.

Payson and Garner stuck together two scared kids, but Vance Kimball huddled in his seat apart from them and watched emotionlessly. Charlie Griffin chuckled, when, at the beginning of the scene, he heard his own throaty whisper, followed by Payson's angry,

"Quiet, dammit! We're shooting."

That grin still clung to his frozen features when the ghost strode across the screen and levelled a finger at its audience. It caught them all so unexpectedly that the five who watched shot to their feet with one impulse.

"*You have received my last warning, John Payson!*" echoed the hollow voice. "*Your life is numbered in hours.*" The voice ceased. When it resumed, Hale winced with the stab of cold eyes into his own.

"*And you, John Hale—every hour you meddle here brings you nearer to your last. What has happened cannot be undone. What is to happen cannot be prevented!*"

With a sound like air rushing through a long tunnel, the hooded figure dissolved into nothingness before their staring eyes.

Sweat sprang through every pore of

the laboratory sleuth's taut body. Hunched over the back of the chair ahead of him, he remained immobile until a thud beside him whipped him into action.

Light burst into the room as Charlie snapped the wall switch. "Holy mackerel! He's got Payson!" he brayed.

But Hale was prepared for this—had been, since he first noticed the way the producer's face flamed and his breath came short, upon the slightest excitement. The others watched dazedly as he ripped his coat off, tore his sleeve back, and plunged a hypodermic needle into the fat arm.

There was a flat expression of accusation on his face as he swung upon the spindly Vance Kimball and the trembling Garner. Words boiled to his lips, but then his jaw clamped hard and he bent over Payson again as he stirred.

The producer came out of it quite calmly. With the help of Griffin, he got to his feet.

"I daresay that's all you'll be needing—for a while? I'll be going to my office. Little rest wouldn't hurt."

"Why didn't you tell me you had a bad heart?" Hale asked shortly. "This might have been just what someone was counting on. Rest is what you'll need tonight; but I'll ask all of you to spend the night in a hotel with Mr. Griffin . . . in the same room, you understand."

They took it docilely enough. Payson interposed weakly, as Hale started them out.

"I'm going to my office for some medicine. Meet you at the car."

It was not until he was disappearing down the narrow studio street that the detective's pulses suddenly leaped with a cold warning. With a hasty word to the police officer, he moved after him.

IN the hall where Hale stood, it was but from within John Payson's office

a bar of golden light rolled across the brown linoleum floor. Sounds came faintly to his ears, the soft grating of a closing drawer, the creak of flooring under the producer's weight, then a low, unobtrusive hissing sound.

As the meaning of the last noise shocked through Hale, he leaped forward, to throw the door open and spring inside. John Payson sat reclining in a swivel chair, between his feet a gas heater from which came the hissing sounds. All the windows were shut.

He leaped in his chair, to slump back helplessly as Hale sprang to the wall jet and shut off the gas. His arms hung limply at his sides. His features were ashen.

"Are you insane, Payson?" Hale rapped. "Don't you see this is exactly what the killer intended you to do?"

"It's no use," the big man replied tonelessly. "It's nothing human we're faced with. It's retribution—it's fate paying me back for something that happened long ago."

Hale seated himself on the desk. He started to light a cigar, stopped as he remembered the gas. Scowling, he remarked, "Now we're getting someplace. Unburden yourself. Undoubtedly the man behind all this knew of your guilty conscience and banked on it to drive you to suicide."

Payson lifted his pudgy hands and let them fall. "No one knows . . . no one alive, that is. But I made the mistake of thinking revenge could be a satisfaction. Instead, it's driven me to—to this." He appeared to gather his poise somewhat.

"Hale, I haven't always had the money I have now. Once I was in less than moderate circumstances, with no particular prospects except that of marrying the woman I loved. But I never married her. A man named Blackmuir, who owned Vita-Craft then,

took her away from me. His money made the impression my promises couldn't.

"Revenge looked pretty good to me then. I had a few thousand dollars, and with a juvenile hope of somehow breaking Blackmuir, I began playing the stock market to get capital. That was just before the depression, when the market was a gold mine. I plunged and I plunged, until I had money I'd never dreamed of."

Payson's eyes glowed at the recollection. Then shadows moved into them. "I learned that Blackmuir was pressed for capital. He'd thrown a lot of Vita-Craft money into bad securities. I pounced on these securities like a tiger on a mouse, forcing them down until he was ruined. I'll never forget the exhilaration of walking into his office, laying ten thousand dollars on the desk, and promising to keep him out of jail if he'd sign the corporation over to me."

"It worked?" Hale asked quietly.

"He had to take it. But he lost that small sum trying to save other possessions. Bad luck hit him right then. The girl he'd taken from me proved to have a character somewhat less beautiful than her face. She left him, and Blackmuir—killed himself." Payson's fists clenched. "Hale, can't you understand that this can't be licked—that it's . . . supernatural?"

Hale tilted his head back and laughed shortly. Lazily he brought his long, bony length upright again, stood smiling thinly at Payson. "I've heard the word 'supernatural,'" he conceded, "but I'll be damned if I know exactly what it means. All I understand about this is that someone has been banking on you to try something like this . . . or for your heart to finish you."

"How about Reinhart?" Payson asked quietly.

Hale pursed his lips. "Reinhart—yes," he mused. "I'm expecting a call from the coroner's office on the matter of his death. You see, I wasn't entirely convinced that the body we found *was* Karl Reinhart's. It was so blackened that I for one, wasn't quite sure but what we'd made a mistake."

The producer blinked. Hale seized upon his uncertainty to instill new confidence in him. He drew him firmly to his feet.

"Go back to the car and let Griffin take care of everything. I'll promise you this much: By tomorrow morning the murderer will be behind bars, and you'll still be alive."

Payson let him have his way with him. He walked uncertainly to the door.

In the moment before it closed on his tired figure, Hale called after him, "By the way—I want all of you on the set again tomorrow for one last shot—the last, I promise you. And tell Charlie to send over a couple of quarts of milk, will you?"

CHAPTER IV

The Last Phantom

THE moment he was gone, John Hale sprang into action. He took out the top drawer of Payson's desk, dumped the papers on top of it, and methodically went through them. Each drawer underwent the ravages of his keen eyes and shrewd brain. But not until he found a big ledger in a closet did the laboratory detective find what he wanted.

With eager fingers he ripped out a page, tucked it into his wallet, and threw the ledger back into the closet.

It was with deep satisfaction that he coiled his long body into the chair and tilted back. Things were beginning to

take on a definite pattern in his brain. But there were a number of facts that still baffled him—facts so ridiculous that they seemed unbelievable.

In the first place, how could the murderer have been right there among them, talking and gesturing, while nearly a score of persons were staring at the spot where he had stood? Most remarkable of all, *how could he have shouted and not been heard?*

Someone very close to the microphone might have been able to do it, if his lips were practically against the mike, so that a whisper became a shout. But the thing hung ten feet off the floor!

Then Hale remembered the Klieg lights at each side of the set, and he scowled, remembering how the lenses shook in the frames. Was that accidental? Hale told himself it was not.

Nor was it chance that in both pictures, the figure of the "ghost" had been somewhat foreshortened, as if they were viewing him from above. All at once Hale leaped as if he had been stung. He searched his pockets for the negatives he had made in the sound stage.

His long fingers shook a little as they lifted them against the light. Every picture, taken in almost complete darkness, was overdeveloped. *Overdeveloped!* In that dark studio there had been enough light—of some form—to blacken the negatives as completely as though they had been pointed at the sun!

Hale wasted no more time. He found his way out of the building and threaded the winding street, flanked by dark sets, to the sound stage. But he did not go in. He poked around among piles of boards outside until he discovered a trapdoor set flush against the ground hardly a foot from the wall. He flung it open, struck a match, and slipped below.

He saw he was in a vast basement,

but knew little else until he found a hanging light globe and turned it on. Then he realized this great, dusty cellar had once been used as a set in some war picture.

The furnishings of a French basement cafe were everywhere. Rickety tables set with cobwebby bottles of wine and crockery dishes, advertising on the plaster walls, a battered bar running along the far wall. But from the conglomeration of furniture Hale's glance drew one vital fact.

A compact, gleaming motion picture projector sat squarely in the center of the dance floor—directed slightly upwards!

It was no surprise to him to find the strange globe within the machine, shaped something like an ultra-violet lamp, where the mazda should have been. Nor to find two wires, which should have gone to an amplifier, leading through the floor—about where the Klieg lights stood . . .

THAT night was one of the most grueling the scientist had ever endured. Where he worked in the basement, the spot was littered with mangled cigar stubs. Scraps of paper lay among the shards of a dozen broken phonograph records. There was a taste in his mouth as though he had had supper with a vulture. But nine o'clock the next morning found him, haggard and grim, on the set.

The memory of that half hour was a nightmare in the frightened men's minds for a long time. No actors would come near the place. Hale made Payson, Garner, Kimball, and Charlie act out the parts while he crouched in his chair, glaring.

At last they were back in the little theater, stiffening with the first splash of light on the screen. They appeared to find nothing humorous in their awk-

ward antics before the camera.

Kimball—The Brain—writhed deep in his seat and clutched the chair arms. The squeak of springs was evident as he constantly shifted his position. Otto Garner's fingers drummed softly against his gray-clad thighs. Payson sat, as limp as a rag, between him and Charlie Griffin.

Then the snap, the whip and crackle of a lightning blast, snarled through the cubicle. The ghost was back—and the ghost was John Hale!

His owlish eyes seemed to go out to every man in the room. From the first word that resounded from his lips, he held them in a trance.

"*In the midst of life there is death—*," boomed his voice. "You, who contrived this fiendship plan, were right. But there will be death in it for you, too! I only wish I could have found this room before Reinhart had to go. I could have saved him, as Payson will be saved."

Someone in the room exhaled a long breath. As if hearing it, the scientist paused, then resumed bitterly.

"Reinhart believed gold was the cause of all this, and gave me a sample of his discovery to prove it. But I knew, even before I dissolved the stuff in acid, that it was fool's gold. If gold were ever washed into the Gulf by the Colorado, it would have remained on the bottom of the sand—not the top.

"For several hours I have known who killed Reinhart. That murder was an accident, but it will be none the less fatal to the killer. At first, when I found Reinhart's gold was worthless, I thought he himself might be the ghost, the body by the lamp merely a victim he dressed to look like himself—thus clearing him when his purpose was accomplished. I thought Garner might be the guilty one, because of the cathode tubes . . . but Vance Kimball also

could have used them. And 'The Brain' certainly had the cleverness to achieve this.

"So finally I narrowed the search down to two men—Garner and Kimball. I searched for a motive, and finally found it. One of these men embezzled money from the corporation. He owned race horses, and horses are expensive when they lose. No doubt he intended to pay it back, but John Payson discovered the missing sum, traced it to a discrepancy in the books, and marked it in red.

"Payson charged him with the theft. But he did not expose him. Why not? Because he needed him until the picture was ended. That foolish mistake almost cost him his life, but he felt it was the only way to save the millions Vita-Craft had sunk in 'The World Beneath The Sea.' Only one man in the world had the ability to put over a difficult picture like that—a director, the greatest one in the world. That man—"

There was a sudden commotion in the audience as Otto Garner hurled himself past Charlie Griffin and sprang against the door. Hale was on him in a flash.

Then he was reeling from a blow to the jaw. Before he could recover, Garner was through the door. Griffin lurched after him, threats boiling from his lips as he tugged a Police Positive from his belt.

But Garner's burly form dived into the maze of winding alleys beyond the street. With all the whip-lash speed of his body, John Hale plunged after him, passing the two-hundred-pound detective easily. Apprehension built strongly within him. Garner was heading for the sound stage—

The extra, driving speed he forced from his long legs was not sufficient to overcome the director's headstart. With a sinking feeling around the abdomen, he saw Garner's gray suit pass

through the door. One horror-filled glance told him he was too late when he crossed the portal himself. Garner was hurling himself upon the flood light beneath which Reinhart had died.

"*Garner!*" Hale shouted. "For the love of God—"

The words died in his throat.

Flame leaped from the director's body, writhing up in a thick, corded spiral. His scream was a ghastly sound in Hale's ears. Half-blinded by the flash, the scientist only dimly made out the blackened thing that tumbled to the floor. Sickened, he stumbled into the sunlight.

He stood white-faced in the doorway when the others rushed up to the building. His grave eyes found Griffin's. "You can write finish on the case, Charlie," he said quietly. "Garner won't be costing the state the expense of a trial."

A trace of awe claimed the big detective's features. "Burned?" he husked. "Like Reinhart—?"

Hale nodded.

"I—I don't understand," John Payson faltered. "You were right about his embezzling the firm's money . . . about my keeping still, too, because I realized no director could make a success of a picture like this except Garner. Thank God the thing was about finished. But how in Heaven's name did you get on that film—?"

"The same way he did," the scientist replied. "With invisible light. I'll show you where the ghost was born."

HALE led the way into the basement. In silence they grouped around the mass of equipment. "I knew the method the murderer was using as soon as I saw the 'ghost,'" he told them. "The figure was foreshortened, as if one were to view a moving picture screen from above. Thus I knew we were seeing a picture—not a man.

"When I myself took some pictures of the set while it was in complete darkness, I realized how he could do this. Those pictures were vastly overdeveloped. Obviously, there was a beam of invisible light shining into the camera from somewhere."

He smiled, seeing the incredulous expressions on their faces. "It wasn't the existence of invisible light that amazed me," he shook his head. "Much of the light around us is invisible: X-rays, ultra-violet rays, infra-red rays. But while these rays will not record images on the retina of the human eye, they *will* affect a photographic plate. The light Garner employed was of even shorter wave-length than ultra-violet—somewhere around 2,700 Angstrom units, I imagine. His light had the ability to pass unaffected through thick planks. That is how he was able to throw the picture up through the floor onto the set. A peculiar 'packing effect' of the light furnished the screen he needed; against the heavier photons of the ordinary light, his beam of light seemed to flatten after a certain distance.

"Garner merely took a miniature picture of himself, and cast his new light through it. The light would not penetrate the silver in the film; hence his success in producing a clear image. Getting the sound was harder. He had to invent a means by which the sound could be recorded on the track without anyone's hearing it! That was why the Kliegs were at each side of the set."

His long finger indicated the sound cables. "Each of those wires carries a powerful alternating current. Garner made use of a strange law of sonics to achieve his purpose. The human ear can hear no sound produced by vibrations over about 32,000 per second. But if two quartz plates are set in pulsation, one at 40,000 and one at 40,256, the ultra-sonic vibrations will cancel

each other, leaving only 256—the note we know as 'middle C.' Garner speeded up the vibrations of his voice tremendously, how much I haven't been able to tell; perhaps it was around 800,000 vibrations per second.

"Both quartz plates in the Klieg lights carried that inaudible pulsation, but to one was added the small vibrational charge of his normal voice. Midway between the lights the heavy pulsations neutralized each other—and at exactly that spot he had the microphone placed."*

Payson shook his head in amazement. "He did all that," he breathed, "just to keep me from exposing him. Suicide or heart failure—I guess he didn't care which accomplished his purpose."

"But, Doc—," Charlie Griffin scratched his head in puzzlement. "You ain't told what killed them?"

"Yes, that was the thing Garner hadn't counted on," Hale said somberly. "He died proving the truth of the statement that 'a little knowledge is a dangerous thing.' A more experienced scientist would have known the terrible destructive power of those plates. I have seen fish torn to atoms when a plate vibrating more slowly than that was thrust into the water. I once seared my hand badly by touching such a plate."**

* According to Edwin E. Slosson, Ph.D., in his *Short Talks on Science*, (The Century Co., New York & London, 1927) a method such as this would result in the sound of Garner's voice being inaudible only at one spot between the two plates. The sound would be extremely faint, but acting on the sensitive microphone, it would produce a sufficiently loud tone to be recorded louder than the voices of the actors.—AUTHOR.

** Slosson also tells of the effect of super vibrations upon animal and plant life when the pitch was sufficiently high. Fish were destroyed and pond weeds torn to bits when plates were set to vibrating at about 600,000 vibrations per second. If a long glass thread was held between the fingers and thrust into the water, the glass seared the skin deeply.—AUTHOR.

His eyes grew smoky. "And when Garner and Reinhart touched that quartz slab, every atom in their bodies was literally torn to bits. But Otto Garner knew what he was doing and did it on purpose. He was hopelessly caught in his own trap."

Suddenly he shook himself and glanced at the warm sunlight streaming

into the gloomy basement.

"I suppose you might call it poetic justice," he grunted. "Personally, I don't care. All I know is I'm going home and sleep for a week. And if anyone who even looks like a flatfoot detective comes in my door, I can promise you he'll meet a more horrible end than Garner and Reinhart did!"

A Machine That Measures » Your Emotions «

A MACHINE that can tell how you feel by examining a few square centimeters of your skin holds a place of honor in a sound-proof, electrically-shielded laboratory in Iowa City, Iowa. Technically it is known as the dermohmograph or affectometer, but most often it is simply called the emotion meter—a name which describes it very well.

By means of the amazing little machine, its inventor, Prof. Christian A. Ruckmick can actually measure the amount of emotion—whether hate, fear, anger, surprise or love—aroused in any person by things he sees, hears, does, or even thinks. The internationally famous psychologist invented the device as a tool for research, but new practical applications are being found daily.

Here is the emotion meter in use. Dr. Ruckmick leads a co-ed through the narrow door into the special laboratory in the University of Iowa psychology building. He seats her beside a bench on which stands a foot-square black and silver box, and to her hand he fastens a pair of little copper plates which nestle in her palm, a fraction of an inch apart. Wires from the plates run to the box, the front of which is a maze of instruments and control knobs. On a ruled scale at the top, a pencil of brilliant light hops back and forth.

As the scientist converses casually with the girl, the light settles to rest near the middle of the scale. A word of flattery causes the light to jump again, a threatened blow sets it to leaping madly. The girl finds that being nonchalant with the little device is no use. The dearest pan, most regular breathing, steadiest eye and easiest attitude do not fool it for a minute.

But what the girl does not know is that each little change of emotion causes a piling up of positive and negative ions on cell walls in her skin, affecting its resistance to electricity. Essentially the emotion meter consists of dry cells, electrodes, fixed and variable resistances and a galvanometer. The galvanometer, in turn, causes the little light to leap back and forth, so that each jump tells the psychologist that there has been an emotional response.

If a permanent record is required, a roll of sensitive photographic paper is passed through the beam at a constant speed, and the result is a wavy black line. The greatest peaks and valleys signify moments of greatest emotional stress.

There seem not to be any limits to the things the little device can do. It accomplishes "mind-reading" card tricks when Ruckmick wishes to astound a visitor. As a super lie-detector it has interested F.B.I. Head J. Edgar Hoover, and is already being put into use by police departments. Ruckmick, himself, used it to jail several criminals by wringing confessions from them. It will be used by physicians to diagnose nervous conditions, by airplane laboratories to test steadiness of nerves, and by advertising agencies to learn which advertisements are most effective. Children and adolescents have been shown motion pictures while connected to the affectometer to learn how much they are excited by scenes showing love making or great peril.

And since the device measures love as well as other emotions it may actually be used to test the affection of engaged couples in order to save them from mistaken marriages.

Darrell Huff.



QUESTIONS and ANSWERS

This department will be conducted each month as a source of information for our readers. Address your letters to Question and Answer Department, AMAZING STORIES, 608 S. Dearborn St., Chicago, Ill.

Q. How can the secret of smashing the atom give the world a large source of power when the atom is so small that it seems impossible for it to contain very much energy? Willard Dewey, 1005 Charles Street, Everett, Washington.

A. The atoms of matter are vibrating or gyrating with extraordinary vigor. The piece of cold iron you hold in your hand, the bit of brick you pick up, or the penny you take from your pocket is a tremendous reservoir of energy, since it consists of trillions of moving atoms. The fact that gases spread until they fill every available space shows definitely that they consist of small particles traveling at a great speed. Molecules of hydrogen travel at three times the speed with which a bullet leaves a rifle. A molecule of still air in your room collides with another molecule every twenty-thousandth of an inch of its journey. It changes its course 5,000,000,000 times in every second by collisions. If you could stop the molecules of hydrogen gas, and utilize their energy at Niagara, you would find enough in every gram of gas (one two-thousandths of a pound) to raise a third of a ton to a height of forty inches. A molecule is composed of atoms and within each atom are equally charged electrons and protons. The entire orbit is held together by a constant balance of electrical charges. This explains why many universities are building huge hi-powered electrical generating plants in an attempt to smash the atom.

* * *

Q. What method other than x-rays is used to determine flaws in metal internal combustion motor parts?—William Willard, 5406 Woodlawn Ave., Chicago, Illinois.

A. The iron filing flotation method is frequently used to discover cracks and fissures in metal automotive parts. Supposing you have a crankshaft which you wish to test. First it is thoroughly cleaned and then immersed in an oil bath consisting of iron filings and oil mixed together. Each end of the crankshaft is attached to an electro-magnet and the current is turned on. You then stir the mixture of iron filings and oil about the crankshaft carefully noting where the iron filings settle on the crankshaft. If there is a crack anywhere within or without the crankshaft, the iron filings will become concentrated around that spot; because magnetic lines of force are strongest at the ends of any magnetized piece of metal. This method is cheaper than the x-ray method and is often used by auto racers in order, to make sure of their cars.

Q. Could it be possible that there is life on the moon?—Harry G. Mitchell, 2022 East 77th Street, Chicago, Illinois.

A. If there is life on the moon, it is the kind of life which can subsist without air. Telescopes bring the moon to within 30 miles of us. At this distance we could just be able to see a dirigible. But we find none of these things. Professor Pickering believes that there are areas of vegetation and water on this satellite and further claims that occasional snow flurries take place in what he terms a "thin" atmosphere. However photographs of the moon point to an absence of air. The edges and shadows are all hard and black, whereas atmosphere would show up as a gradual shading off as we see on the earth. This absence of air gives rise to some surprising sound phenomena. For example, there is no such thing as sound on the moon. A meteor shattering itself to a violent end against the surface of the moon would make no noise. Nor would it glow as a "shooting star," as it would if it entered the earth's atmosphere. On the moon there is no floating dust, no scent, no twilight, no blue sky, no twinkling stars, and the sky is always black while the stars can be seen both day and night. Since there is no air on the moon, the heat the moon gets radiates away immediately. Therefore the temperature may range anywhere from 50 degrees below zero to as high as the boiling point of water. There is no life or vegetation on the moon.

* * *

Q. Why is perfume so expensive?—Miss Peggy Mockler, 131 Maple Avenue, Wilmette, Illinois.

A. Perfume is expensive because of the high cost of its ingredients. Ambergris, which is used as a fixing agent to maintain the odor in a perfume, costs as high as \$520 a pound. Natural flower essences are extracted from crushed flowers, which are used by the thousands to make one pound of oil. One pound of oil extracted from the jasmine flower sells for about \$335. Recently developed synthetic oils have cut the cost of these spirits to as low as \$18 a pound. But artificial essences have not yet proved entirely successful.

* * *

Q. We refer to the brightness of the sun as being 1575 billion billion candle-power. Just how much is a candle? J. K., Indianapolis, Ind.

A. The standard candle is a sperm candle weighing one sixth of a pound and burning 120 grains per hour. An ordinary gas-burner usually gives a light equivalent to from ten to fifteen candles. Some searchlights give up to 2 million candle-power.

Meet the Authors

ROBERT BLOCH

THE MAN WHO WALKED THROUGH MIRRORS

Author of

READERS of my stories (and they're two of the finest people I know) confess themselves amazed at my genius. Handsome as a Greek god, with a mind keener than Einstein's and a literary style superior to Shakespeare, they find it hard to believe that only six months ago I was a 97-pound weakling.

"How much do you weigh now, Bob?" they ask in admiration.

"97 pounds," I modestly reply.

This only goes to show where good hard work and clean living will get you in the end. That's where it got me. And yet I insist on writing fantastic fiction. I would write more, if it wasn't for the little green men that run out of the woodwork and pull down my socks every time I sit at the typewriter. I have managed to fool these fellows by not wearing socks, but lately they've taken to tugging at my trousers instead. Now there's nothing left for me to do but crawl into a burlap bag and take my typewriter with me. Fortunately there are plenty of editors who would be glad to furnish me with the bag.

Which brings us to this month's story. I had my usual trouble with the tale, owing to the fact that I never learned to read or write, but it was a yarn I very much wanted to do.

The ideas set forth in the tale are sincerely my own. I do believe that the imaginative field which produced a Weinbaum, a Merritt, and a Lovecraft demands really superior writing—and that at times it doesn't get it.

It took a vast nature to create this cosmos over billions of years; and yet many a callow hack goes blithely ahead and destroys half of it, swings planets out of line, blots out civilization, and

spawns a dozen races of monsters—all in ten thousand words, or less. Quite a job. But it's a pretty serious thing to play God, and sometimes the poor author isn't always up to it. He is apt to bite off more than he can chew, or the reader can swallow.

It took a Biblical God seven days to create one poor stooge of a man, and it took a blind evolution millions of years to do the same—and yet too many authors set themselves up as dcsmirges and do the trick in a couple of hours.

Now why is this so? Because I think too often the boys forget that they are writing *fiction*. They

take one puny fact; inverting a chemical equation to create a new physical law, for example—and because they are are so sure that they have "science" in their story they forget how to be convincing. Anything goes, the wilder the better. Haven't they got a "fact" in the yarn to back them up? This fallacious reasoning often results in a sorry job.

I am throwing no stones from my glass house. I know, only too well, that most s-f authors are sincere, and that the editors are conscientious. A lot of swell tales are being written, and I am inclined to think that the poor ones are the fault of only one person—the reader.

As long as s-f readers sit back on their haunches and swallow childish corn that's what they'll be fed.

Every sincere author

and editor welcomes honest constructive criticism; begs for it. Only one person can improve science-fiction, and that is the reader by his plain statement of what he wants.

Well, that's the thought behind "The Man Who Walked Through Mirrors." I tried to show, in an off-trail fantasy, just what mistakes in reasoning can do to a person's attitude; making him reverence a "fact" and blinding him to the existence of a strange world of mystery which does lie about us; a world which should be utilized in science-



ROBERT BLOCH

(Ed.'s Note: According to Mr. Bloch, he hasn't had a "straight" picture taken in years. Thus this photo is intended only to represent a favorite science fiction humorist.)

fiction. Realizing that he is writing fiction and not depending on his precious "fact" it seems to me the author can do a better job every time. But as I say, it's my own insignificant opinion and nothing more; only hope it served as inspiration for a tolerable yarn.

As to the "facts" in this story; they are just that. I have always had a fondness for glass—ever since I discovered that it was the stuff beer-bottles are made of.

For the benefit of those who came in late; I was born in Chicago 22 years ago and am at present living in poverty. Have written over 1,000,000 stories and have sold less than 1% of them. A professional schizophrenic, I am allergic to human beings. I owe everything to my mother, and she is suing me for it. My favorite color is redheads, my favorite sport is anthropophagism, and my hobby is reading the biographies of fantasy writers. I eat fan-letters, and my one ambition is to throw an editor into a wastebasket.—*Robert Bloch, Milwaukee, Wisconsin.*

HARL VINCENT Author of
**MYSTERY OF THE COLLAPSING
 SKYSCRAPERS**

IN the course of my professional work, it was occasioned that I have an office for the first three years after its completion in the RCA Building, which many of the readers know is the largest structure in the magnificent group known as "Rockefeller Center,"—more popularly perhaps, "Radio City." In my duties then as a sales engineer there were many necessities of entertaining out of town purchasers of the apparatus I was handling. Out-of-towners, big and small, want to go sightseeing. And Radio City is a great place for that. A tour of the many buildings, the studios of the broadcasting company, and of course a visit to the observation roof of the RCA Building naturally are in order. I don't know how many times I had to go through the same routine with a customer or sometimes a customer and his entire howling family. But, in all these times, I never once tired, good weather or bad, of the visit to the observation roof.

To the north, there is the view of Central Park, most beautiful on a fine summer day, stretching as a map-size garden plot from 59th Street on the south to 110th Street on the north and from Fifth Avenue on the east to Eighth (Central Park West) on the western extremity. One, from that view, gravitates to the eastern parapet of the roof and looks amazedly and rather frightenedly directly down on the spires of Saint Patrick's Cathedral. Then to the south parapet and two important objects in New York's famed skyline stand out immediately, one the huge looming structure of the Empire State Building, the other the smaller yet more graceful Chrysler Building. There are of course thousands of equally interesting vistas, but these two do stand out above all else, at least to my thinking.

It was during one of these visits that the germ

idea of "Mystery of the Collapsing Skyscrapers" was born. It was a long time sprouting. Standing on the top of the RCA Building, 850 feet above street level, looking southward to the 1250 feet height of the Empire State, gave me a thrill. It was a windy day, the sway of the RCA seemed perceptible under foot, though I think that is only imagination. At any rate, the feeling sent my imagination into inquiring channels and I finally learned a few points of interest about both buildings involved in the story.

I had always understood and believe it is a popular misconception that these large structures sway considerably in a high wind—a matter of a foot or more. To my surprise, I learned this was not the case and that, while the Empire State Building has been designed for a maximum deflection of about six inches and the RCA for about two inches, there are no such sways actually encountered. A measured deflection of the RCA Building in the hurricane of last September, which reached a rate of 87 miles an hour was less than one inch! Which, in a total height of 850 feet, is less than one one-hundredth of one percent!

Another interesting comparison between the two buildings is that the maximum floor loading calculated for the Empire State Building is 50 pounds per square foot while that of the RCA is 75. Why the difference I do not know, but perhaps here is another germ idea for a yarn—some force from below, some scientific agency of . . . but I'm getting away from myself. Better keep off the subject right now and tell you that there are seventy stories in the RCA and 103 in the Empire State Building. The 103rd story of the latter is not advertised as the observation story is the 102nd and the final level is not open to the public. Hence the usual impression of the lesser number of stories.

In any event, of such material this story was conceived.—*Harl Vincent, New York, N. Y.*

POLTON CROSS Author of
WORLD BENEATH ICE

COULD it be possible, in the event of a world catastrophe, that salvation might lie in an unexpected part of the globe? That was the basic idea of "World Beneath Ice."

But what logical process could bring about a disaster of sufficient magnitude to destroy civilization yet leave survivors behind? Only, so far as I could see, the method shown in the story. For a logical idea I flatter myself that it comes pretty near one of the best—though I have not the least doubt that some bright reader—or several—will very soon take the wind out of my sails.

To imagine a world in the grip of intense cold was not very difficult because at the time of writing the story a wave of intense frost had England in its grip—intense, that is, to us. You of America, more accustomed to extremes, would probably laugh at what we call cold. However, external conditions did help a lot.

Seeking a departure from the invasion idea, from the eternal lust to conquer—which usually seems to be our conception of the men of other worlds—I took the opposite view of an unguessably old man of another world waiting for the chance of somebody to come along and take over all he had created, so he could die happy. I chose the moon as the responsible world because the conditions of its surface best fit the science of the old gentleman concerned.

As to the quake, I feel in view of what I have read of the Wegener Hypothesis that the events depicted *would* take place. I believe that they could take place right now if balance were to shift in the slightest degree from its present level.

But I sincerely hope such a thing will not happen—not until science fiction is accepted as a regular form of the world's literature anyway.—*Polton Cross, London, England.*

ED EARL REPP Author of
JOHN HALE'S HOLLYWOOD MYSTERY

JOHN HALE goes to Hollywood. . . .

The Film Capital of the world, the city of glamor girls and boys; where small fortunes are paid weekly to actors, writers, directors; where sadness and shattered dreams rub threadbare elbows with success and fame.

Hollywood. . . .

What vivid scenes the name conjures in the minds of those who have never been there, who do not know the heartaches haunting its narrow streets. Hollywood, frankly, has not the glamor the press agents have lent to it with their nimble brains. It is just another town and its main stem, Hollywood Boulevard, has few more lights on its entire stretch from Western Avenue to La Brea than there are in the business block at Seventh and Broadway, Los Angeles, a few miles away.

Hollywood is just another town where men and women go to work as they do in all other parts of the country, and those fortunate enough to be in the picture industry work just as hard, if not harder and under more strain and stress, as any other laborers. We know, for we've worked there now for the past two and a half years, writing for Warner Bros.-First National, Columbia Pictures, Republic Pictures. And during that time your humble correspondent has written sixteen screen plays for production.

In Hollywood some of our biggest stars are on the set ready for work at seven in the morning. And they quit at the whim of the director who usually gets a bonus for finishing ahead of schedule. That means the entire crew from star to stand-in works from twelve to sixteen hours a day, under burning lights or boiling suns. Nothing glamorous about that, yet Hollywood is full of discouraged would-be stars, some working like automatons in the Five and Tens along the boulevard.

Writers usually start work at nine a.m. and under pressure work till nine at night. Perhaps it

pays . . . in money. It must and quickly, for in Hollywood you are like a comet shooting across the sky . . . a brilliant light, then . . . oblivion. There's nothing glamorous about Hollywood.—*Ed Earl Repp, Van Nuys, Calif.*

ARTHUR R. TOFTE Author of
WARRIORS OF MARS

MAN has always looked at the red planet of Mars, and thought of it as the planet of war, with a certain bellicose influence on the people of Earth.

But if you really stop and think about it, supposing there actually are living beings on Mars (and I firmly believe there are)—would they really be warlike, and what form would their war-making take?

On Earth our wars are fought, as a rule, between alien peoples, peoples who have developed different cultures because they are separated by mountain ranges, by seas or oceans, or by deserts.

But on Mars there are no mountain ranges, no seas or oceans. Deserts there may be, but the canals cross and crisscross them, and they probably offer little obstacle to free travel. Therefore, if there are people on Mars, it is not likely they are divided into many alien races as we are on Earth. Divided they probably are—but not on racial lines!

That means that if the people of Mars are truly warlike, their form of waging war is in all chances quite different than ours. Instead of using warfare as a means to destroy and to conquer, why shouldn't they use it as a means to entertain, like our baseball? And like league baseball, why shouldn't they regulate and control it, with battles taking the place of games? That would be both consistent and interesting.

It would be especially interesting to see how an Earthman, filled with inborn "human" ruthlessness, would upset the nicely balanced Martian appletart.

Anyway, that's my theme in "Warriors of Mars."

DON WILCOX Author of
WIVES IN DUPLICATE

THIS story was really written as the second of a series, both of them sold to AMAZING STORIES. Both stories are complete in themselves, dealing with the adventures of Ray Lattimer and his wife, Vivian. But sometimes the putting together of a magazine bring about odd circumstances. Anyway, it rather intrigues me to introduce Ray and Vivian as man and wife, or rather, as *two* wives, in this short story, and then step back in time to tell you the story of their courtship, and of the strange things that befell the earth, to bring about the space radio, and the doom of Earth itself. So when next you meet these characters of mine, be prepared for a surprise—because, believe it or not, this present story is not laid on earth!—*Don Wilcox, Chicago, Ill.*

Coming NEXT MONTH

ON THE ROCKY SHELF LAY A CRUMBLING HUMAN SKELETON, ITS ARMS POINTING IN AN UNMISTAKABLE GESTURE.

Welford and MacGlennon, trans-Pacific flyers forced down on an unknown island, followed the pathway indicated by death and found an incredible mystery. Then out of the night came a deep, hoarse voice. "Mor T'evikor?" it asked. "Mor T'evikor?" What did those mysterious words mean? What was the "Walker" that roamed the island during the night leaving weird prints in the sand, hurling unintelligible questions from the dark, then pronouncing their death sentence?

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•
Also in this issue—Stories by

THORNTON AYRE • EANDO BINDER

BERTRAND L. SHURTLEFF

DON WILCOX • and others

Plus Our Other Features: Science Quiz—Discussions—The Observatory—Back Cover by Julian S. Krupa—Questions and Answers—and many more.

**SEPTEMBER
ISSUE**

AMAZING STORIES

**ON SALE
JULY 10**

Science Quiz

The following quiz has been prepared as a pleasant means of testing your knowledge of things scientific and pseudo-scientific. We offer it solely for the pleasure it gives you and with the hope that it will provide you with many bits of information that will help you to enjoy the stories in this magazine. If you rate 60% correct in your answers, you are considerably ahead of the average.

DO YOU KNOW:

1. What two chemicals will flame when water is poured on them?
2. What amount of curvature the earth has, per mile of surface?
3. How many asteroids there are?
4. How bright moonlight is?
5. Whether or not liquid air can be frozen solid?
6. How an atom can be split?
7. The name of the greatest solvent known?
8. The weight of gasoline?
9. What will dissolve celluloid?
10. The distance to the moon?

SCRAMBLED SCIENCE TERMS

1. One of the latest discovered elements. MILLNIU _____
2. The element that has the greatest heat resistance. ANEMIAGS _____
3. The heaviest element. MISOMU _____
4. One of the known comets. NADOTIS _____
5. A unit of length in interstellar space. SEPRAC _____

SELECTION TEST

1. When you have a fear of fire, you are known as a: pyrophobe, agaraphobe, dorophobe, mendicant.
2. In the United States, diamonds were first discovered in: California, Arkansas, Wisconsin, New York, Alabama.
3. The scientific name for fairy stones is: Duralumin, Sauroelite, Bakelite, Fluorite, Gypsum.
4. The most abundant mineral yielded by the earth's crust is: iron, copper, aluminum, silver, gold, lead.
5. The gas that has the greatest lifting power is: helium, hydrogen, oxygen, nitrogen, carbon dioxide.
6. The carbon telephone transmitter was invented by: Marconi, Bell, Edison, Morse, Berliner.
7. The term used to describe a person who sunburns, but does not tan, is: euthanasia, heliophobe, tularaemia, allergic, sartorious.
8. A substance that will turn to liquid when exposed to moist air is: carbon tetrachloride, caus-

tic potash, sulphur, sugar, tellurium.

9. The expression of chemical equations is devised by: Berzelius, Burgess, Rutherford, Hopkins, Boyle, Mendeleev.

10. The amount of water in cows' milk is normally: 10%, 8%, 50%, 87%, 35%, 63%.

11. The chief food supplying calcium to the body is: rice, milk, eggs, radishes, apples.

12. The hardest wood found in the United States is: maple, black ironwood, oak, ash, hickory, redwood, sequoia.

13. The most delicate muscular function of the human body is in the act of: smiling, speaking, yawning, frowning, laughing.

14. The amount of heat given off by the body of an average man of 140 pounds, when he is at rest, is: 525 thermal units, 400 thermal units, 735 thermal units, 368 thermal units, 473 thermal units.

15. The first successful operation of stitching up a human heart was in: 1803, 1854, 1896, 1907, 1912, 1928, 1930.

TRUE OR FALSE?

1. Chlorophyll is the green coloring matter of plants. *True.... False....*
2. Radium loses half its value in approximately 1800 years. *True.... False....*
3. Nitrous oxide will produce instant unconsciousness. *True.... False....*
4. Sound does not travel faster by radio than naturally. *True.... False....*
5. Red cotton has been grown in America. *True.... False....*
6. The world's most extensively used food is rice. *True.... False....*
7. The lachrymal glands are in the back of the neck. *True.... False....*
8. Psilosis is a disease. *True.... False....*
9. The abbreviation for trinitrotoluene is T. N. T. *True.... False....*
10. Insulin is used in the treatment of cancer. *True.... False....*

PROBLEM

Three gentlemen, applying for rooms at a hotel in a small town, are given the only rooms left, at a price of \$10.00 each room, or \$30.00. The clerk, later on, decides to reduce the rate to \$25.00 for the three rooms, to create good will, and orders a bellhop to go up and return \$5.00 to the three. The bellhop, on the way up, decides to repay each man only \$1.00 and pocket the balance for himself. He does this, which reduces the cost of each room to \$9.00. Three times \$9.00 is \$27.00. This sum, plus the \$2.00 pocketed by the bellhop amounts to \$29.00. What happened to the thirtieth dollar?

(Answers on page 143)

DISCUSSIONS



AMAZING STORIES will publish in each issue a selection of letters from readers. Everybody is welcome to contribute. Bouquets and brick-bats will have an equal chance. Inter-reader correspondence and controversy will be encouraged through this department. Get in with the gang and have your say.

A FLARE WHICH PLEASES

Sirs:

Regarding your answer to the letter *More About Covers* I certainly can imagine that same cover with black background, a dull gray metal robot and the man dressed in quiet colors, but with the title the way it is for June. That combination would most certainly catch and hold my eyes instantly. It would be so unusual among all the other gaudy covers on the news stand.

I never read so many interesting, well written letters in one collection in a fiction magazine as there were in the June issue. And the comments in answer have a flare which pleases me highly.

Do you ever receive word from women readers? I have been a Science fiction fan for many years but have never met another.

Reasons for appreciating your magazine are:

1. The print is large, easy to read.
2. No glare to the paper.
3. So many good interesting features.
4. Neat index page.
5. Few displeasing advertisements.
6. No continued stories.
7. Reasonable price.

*Mrs. Leafy Clark,
Moorcroft, Wyoming.*

● We wonder what you thought of our July cover? This was not gaudy in color, insofar as the illustration is concerned, but had a bright logo in yellow and deep orange, which stood out just as you indicate might have been done with the April cover.

We are especially pleased by your reference to the part of the editor in replying to letters in Discussions. We try to get right in with the gang and say what really pertains to the subject, without the usual superior elevation and attitude of the "man beyond reproach." As for the "flare" we hope we can continue to present a whole magazine with that excellent quality.

Yes, we have other woman readers, quite a few of them. We'll present their letters as they write in. Perhaps next month a few of them will prove their existence to your satisfaction.

Your seven reasons for liking AMAZING STORIES are appreciated. These are things we like to know.—Ed.

DESERVES FIRST PLACE

Sirs:

I rate the stories in the June issue as follows:

1. World Without Death.
2. Microbes from Space.
3. The Radio Man Returns.
4. Lundstret's Invention.
5. Brigade of the Damned.
6. The Whistling Death.
7. The Deadly Slime.

Polton Cross' story deserves first place by far. Its nature was a bit different and it was very well written. Thornton Ayre's story, as do all of his works, certainly went over big with me. Ralph Milne Farley's Radio Man stories are right down the old scientification alley and if it was longer I would have given it a higher rating. The other stories are good with the exception of the Whistling Death.

Please, oh please give Paul a chance at the front covers. If I can't get them by demand then I will have to resort to pleading—BUT WE WANT PAUL'S FRONT COVERS ON AMAZING STORIES!

Success to Fantastic Adventures (it's good).

*Harold G. Schaeffer,
1320 Fulton Avenue,
New York, N. Y.*

● We have a variety of artists at work on front covers, and you can be assured Paul will get a chance to present his work along with the rest. For instance, Leo Morey presents a cover on this issue, to illustrate Arthur R. Tofte's delightful Martian satire, after the fashion of the now famous "Idiot's Delight." Coming is Fuqua's most interesting science fiction cover to date.—Ed.

THE GIANT EYE

Sirs:

If you don't mind I'd like to put in my two cents worth on your article, "The Giant Eye."

There were several important errors of fact in the article which should be corrected. In the first place, the telescope is not completed as yet and will not be for some time. It is true, the grinding was completed last year. However, that didn't complete the job by any means, as the polishing and figuring was still to be done. Work on this is in progress at the present time and will be for many months yet. The observatory dome on Mt. Palomar is erected and much of the mounting is in place, but a great deal of work is yet to be done, and the aluminizing of the mirror won't take place for some time.

I'll let the rest pass, except that I might men-

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tion that an uneven spot on the mirror would slightly blur the entire photograph rather than produce a definite "blur spot."

I have often felt that a bit more attention should be paid to the marvels of the mounting for the "Giant Eye" as well as to the mirror itself. The great weight of metal and glass will be perfectly balanced in any position and will be ingeniously supported. If roller bearings were used there would be so much friction a great deal of power would be required and smooth action would be almost impossible. Instead, the mounting rests on pads into which oil is pumped under high pressure. As a result a thin film of oil is forced between the pad and the metal, with the result that the tons of moving parts actually float in oil! Again, no conceivable bracing could prevent the heavy parts of the mounting from bending under their own weight. To keep the optical parts in rigid relation to one another, the mounting is designed so that bending in any part is compensated for by corrective bending in others. Those peculiarly shaped braces are there for a reason!

Paul Freehafer,
404 S. Lake Ave.,
Pasadena, Calif.

● Many thanks, Mr. Freehafer, for your information on the Palomar telescope. We pass it on to our readers, who are anxious to get all the data possible on this scientific marvel.—Ed.

"CORYN" STORY POLICY

Sirs:

I have just completed the June issue. As a whole, fair. A new cover artist is good for a change, inside illustrations good but would like to have a larger variety of artists, Krupa's style is getting tiresome. Virgil Finlay and Paul are the artists you want. Paul was excellent on the back cover.

Don't look now but don't you think Thornton Ayre is slipping? *Locked City* and *Secret of the Ring* were swell, but the last two were no better than the average.

I read the *Discussions*, which is just as good as the stories, and you commented on Professor Jameson. You said Neil could not find an adventure to suit your new story policy. I don't like your story policy. To be frank the only good yarns that you've had since you took over, exempting the April, 1938, issue, are the first two Thornton Ayre yarns and Warner Van Lorne's *Wanted: 7 Fearless Engineers*. Please get a Jameson story at any rate, another series of them and do not hold Neil R. to that "corny" story policy you have. I believe a sufficient number of readers wrote in to make it worth your while to have some more of the Professor.

You also state that Amazing leads the field, foocy!!! I can name two other Science-Fiction mags that beat you a mile. But a Jameson novel would put you in unquestionable lead. Please take this as constructive criticism and GET A

JAMESON NOVEL. Also how about some serials?

Lewis Martin,
1258 Race St.,
Denver, Colo.

● We don't think Thornton Ayre is slipping, but we do think that in the very near future he will present something entirely new, to prove that he can present variety as well as the rest of them. You watch for it: we'll take the responsibility of promising he'll do it.

We have a "policy" for a definite reason. We must have a policy. There seems to be a lack of understanding among our readers, and perhaps among a lot of authors, among them Neil R. Jones, as to what that "policy" really is. Perhaps a concise definition will help at this point. Briefly, our policy is this:

We want plot. We want a "story." If the science in a story can be removed, and still leave something that could be called a story, then the author has done what we want him to do. If we can't drop the science, without leaving a pointless husk, then we don't accept the story—unless the idea is so strong as to warrant publishing what is termed an "incident."

Further, we want fast action. Not gun-popping action, hut dramatic tempo, carried out in all phases, such as suspense, situation, complications, fast dialogue, a minimum of scientific and entirely descriptive matter which tend to slow up the "continuity of action" and a reasonable degree of active atmosphere which tends to vitalize the scene for the reader.

Next we want stories of people we can all understand—this entails good characterization.

Lastly, we want significance. If the reader says "so what?" after reading the story, it is a reject. If the reader feels that he has something that has meaning, a reason for existence, a right to see print, then it must have significance.

So, the stories you mention are stories which fulfil all these requirements. Do you see what we mean?

If you can get any author to classify the foregoing "policy" as "corny" please let us know his name. Maybe that's why he isn't selling us, and we'd like to set him straight.—Ed.

MARTHA'S VINEYARD

Sirs:

I have just finished your June issue, and consider it nearly perfect.

I was particularly interested in R. M. Farley's hit in "Meet the Authors." He mentioned a farm on Chappaquiddick Island; and Chappaquiddick is officially a part of Dukes County, Martha's Vineyard Island, where I have lived since birth. If Mr. Farley knows our Island, he knows its beauties and attractions.

Chappaquiddick is within ferryboat distance of the Edgartown wharf, at the opposite side of the Island from my own home.

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Standard Art Studios, 113 S. Jefferson St., Dept. 598-H, Chicago.

I would be interested in acquiring the other "Radio Man" stories, if possible. Any information is appreciated greatly.

With all best wishes for Amazing (my colleagues agree), I remain,

Sincerely,

Allan Keniston, Jr.,
Vineyard Haven.

● Mr. Farley's family for something like 150 years, has lived on Martha's Vineyard Island, so I assure you, he does know whereof he speaks. As for his "Radio Man" stories, originally printed in Argosy years ago, perhaps he will furnish you with additional information as he reads this. Mr. Farley is noted for the authenticity of locale in his stories.—Ed.

THE STORIES COUNT

Sirs:

You've a pretty fair argument, all right, in response to my recent blast concerning the covers, but I remain unconvinced. You see, one of your competitors does consistently present the kind of covers I like, in a word, realistic ones. Since it is done, why can't you do it? Your new artist, Juhre, is fairly good. The June cover is infinitely better than that May horror. However, I long for a good old space-ship painting!

WHY DON'T YOU AND WHEN WILL YOU TRY McCauley ON THE FRONT? He is by far your best artist! And I'm not the only one that thinks so!

Still, when all is said and done, it's the stories that count and, with one exception, they are good this time. "Whistling Death" tops the list; a powerful piece of writing. As good, in a different way, as "Where Is Roger Davis?" of the May issue. Superb! More from Gclula!

"Lundstret's Invention" needs little comment. Need I say more than it would have taken first place in the March and April issues? A swell yarn, with a really clever ending.

"World Without Death" might have been second, but there were a number of items in it which bothered me. For instance, on page 31 this appears: "... the greater proportion of cosmic waves cannot reach earth's surface because of the ionization of the atmosphere's upper levels." Pardon, but I beg to differ. The magnetic fields of the earth and the sun are what actually turn the trick. The ionization layers shield the earth from portions of the ultra-violet rays, not the cosmic rays.

"The Deadly Slime" should have rated higher. It was told in an interesting manner, and had a few humorous moments. But the ending was an example of utter foolishness. On page 71, it is mentioned that 25,000 persons had lost their lives in the slime. Yet it remains for Dr. Halwell to stop the menace, because he had cancer—a natural enemy of the deadly protoplasm. Now cancer is by no means a rare malady. Yet out of those 25,000 people killed, not one was afflicted with it! In the words of Harold Benton—Pfu!

Krupa's illustrations for "The Whistling Death" and "Microbes from Space" are swell. He improves. But you need more illustrators for variety.

Types of yarns I would like to see: Humorous, time-travel, and interstellar. Authors: L. Ron Hubbard, L. Sprague de Camp, E. E. Smith, Frank B. Long, Jr., Ray Gallun, Clifford D. Simak, Ross Rocklynne, Manly Wade Wellman, etc., etc. . . .

Robert Jackson,
239 W. State St.,
Barberton, Ohio.

● Your comments on the stories are very interesting, and your criticism has enough point to it to pass on to our readers and to the writers of those stories.

We have finally purchased a humorous story. Nelson S. Bond has given us a rich-tickling yarn with as much punch as anything AMAZING has ever presented, not even excepting Olsen's famous "The Educated Pill." We'll present plenty of time traveling yarns in the near future. And also, we'll get those authors you mention. Three of them have yarns on our desk right now.—Ed.

QUESTIONS

Sirs:

I see you have finally secured artist Paul. But why put him on the back cover? Not that I don't appreciate his work there, but simply because he belongs on the front cover. Fuqua is good—has been improving steadily since June of last year—but Frank R. Paul is the pioneer cover artist. I think he should remain there.

My congratulations to Abner J. Gelula for his interesting story, "The Whistling Death." It ranks among the top yarns of the June issue.

This Frederic Arnold Kummer is a prolific fellow. Perhaps a bit too prolific. He has written a few fairly good tales, but lately his stuff has been degenerating badly. I liked his idea of a Foreign Legion on Mars, but the story he built around it boasted signs of haste, which, of course, makes waste. I suggest, Mr. Kummer, that you put on the brakes. You might, however, study the technique of John Russell Fearn. Mr. Fearn's typewriter does a terrific business, you know, for JRF employs a few *nom de plumes* in addition to his own name. Yet, Fearn seems to pound out a passable yarn every time, and some of them are far above average. "The Deadly Slime," Sir Frederic, wasn't quite passable. We'll just call it excusable.

Why does one author appear so frequently in the "Meet the Authors" department? It isn't necessary, so why not introduce new writers when they appear, and use the extra space for "Discussions"?

With so many new s-f mags on the market, it's hard to determine which one leads the field. Frankly, I haven't any special choice just now, but I feel that AMAZING is well up on the list.

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National Radio Institute, Washington, D. C.

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AGE.....

NAME.....

ADDRESS.....

CITY..... STATE.....

did the January cover featuring Adam Link and his dog, Terry, is easily the best.

Both "Death in the Tubeway" and "The Interplanetary Graveyard" were ROTTEN. On the alternate hand, "The Black Empress" is SUPERB. But "I, Robot" BEATS THEM ALL.

A few more like that.

Vol Molesworth,
17, Riviera, Brook Street,
Coogee, N. S. W., Australia.

● We are interested to hear of your experiments with rockets. Someday, perhaps, one of our readers is going to hit on the solution, even by accident, of interplanetary travel. We appreciate your kind comments on AMAZING STORIES.—Ed.

HERE'S "HOW"

Sirs:

I am intensely interested in all matters and references pertaining to Atlantis, Antillia, and Lemuria. As my interests run along these lines I was naturally interested in the "Riddles of Science" which appeared in the June, '39, issue.

There is one thing which I would like to have you answer, and that is: where did you acquire the information as to be able to state that Mu "had airships that defied gravity, and ran by some strange power that required no motors"? Also what is the foundation to such a statement? I will agree that there is a possibility that Mu had more advanced science than we of today, but where do you get your one idea that they had airships of the type you describe?

Although it may sound funny to you, it's true that a large percentage of the readers are wondering where did so many people get their information on "The New Adam"? In other words, how do so many of the readers know enough about the "New Adam" to know that they wanted you to buy it?

Oh, say, Editor, congratulations on your nifty answers to some of the letters you publish in the "Discussions" Dept. It's Amazing!

Kenneth Nahan,
P. O. Box 305,
Westfield, N. J.

● William Churchward, in several books on Lemuria, tells of the legends of the ships without motors. He deciphered the legends from ancient tablets found in India, in ancient monastery libraries. There are dozens of other sources, in the folk-tales of many races, which coincide in this. If you are interested in Lemuria, by all means read Churchward.

How do so many readers know about "The New Adam"? Simple. Several fans have read the manuscript, and through the years since Weinbaum's unfortunate death, have never forgotten it. It has spread by a sort of science fiction fan grapevine which is perhaps the most unique quality of any group of pulp readers in the world. We all

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admit science fiction readers are in a class by themselves, and their loyalty, their widespread influence, is a marvelous thing, even to myself, who was one of the earliest spirits in this unusual "invisible" organization. Also, it certainly speaks for the merit of the story itself. No one who has read it has been able to resist joining that uncanny publicity campaign.

It is the "spirit" of science fiction!—Ed.

WHY ANNIHILATE MR. KEILLOR?

Sirs:

Really, Mr. Editor, it isn't done! I'm referring to the way in which you maltreated my attack (in the May "Discussions") on Mr. King Keillor's thesis on the subject of why letter-writing-fans write fan letters, and why misogynists misogynize. You deliberately and maliciously hacked huge chunks out of my letter, and altered the wording of it in such a way as to completely eliminate such sarcasm as I had included; and to entirely remove the series of verbal jolts which I had painstakingly concocted for the enlightenment and annihilation of Mr. Keillor. Or, maybe you are pro Mr. Keillor's views?

No, it definitely isn't done!

And I think that most readers will agree with me on the following—that "Discussions" should print what the readers think, and not what the Editor thinks the readers ought to think!

I have written you a couple of nasty letters in the past, I admit (my motto being that a kick in the pants will often send a chap farther forward than a pat on the back), and I didn't "dare you to print them." But you did, thereby gaining my admiration on that point. Yep, you can take it, BUT—I honestly think you should stop shoving your Editorial oar into the effervescent effusions of iconoclastic readers. Either print the letters piecemeal, or NOT AT ALL!!!

O.K.—now let's shake hands and be friends. I am bound to admit that *AMAZING* has made definite progress during 1939, though whether it will continue to do so is in the lap of the gods, so to speak. The covers are nothing to write home about (meaning the front covers, of course) and the back covers are at least preferable to blatant ads for "Athlete's Foot" or some such noxious ailment. The interior art work is good, generally; but rather uninspiring. I won't comment on the May issue yet, since I've only just purchased same—'twas the heartbreaking mutilation of my anti-Keillor epistle which inspired this letter.

I have one final criticism to make, however; and that is re your "real truth" (sic) about the "Marie Celeste" (which is so "staggering in its simplicity"), and which appears in the May *Observatory*. Can you seriously contemplate the possibility of the crew of a ship being swept overboard while watching a race between the Cap'n and an ex-convict? Seriously? Aw—NUTS! And how do you explain the opened bottle of medicine? But perhaps you would say that a mischievous squall blew the cork out of the bottle,

or that the aforementioned cork disguised itself as a bad smell and wafted out through the nearest porthole? And you omitted to mention the *pages found torn from the log, and the cask of alcohol which was found empty but broken open!* How do you account for that?

Dave McIlwain,
14, Cotswold St.,
Kensington, Liverpool, 7,
England.

● My dear friend McIlwain (and I do mean that!—because without your letters, I'd be lacking a vital element to my personal happiness), the real reason for "hacking huge chunks" out of your letter was simple. Mr. Keillor is also a reader, and his opinion must be equally protected. Thus portions of your letter not entirely applicable to the general interest; i.e., of a more personal nature, were eliminated.

The Marie Celeste? A reliable "digest" magazine dealing with radio subjects, related the whole story as I gave it to you, as it had appeared in a nation-wide broadcast. Reputably, therefore, it is gospel truth. The opened bottle of medicine? Would it not be logical, for a member of the crew, about to take his medicine, hearing the excitement of the race, to dash off to get in on the finish? Pages torn from the log? Isn't it logical the ex-convict might have taken them, previous to the race, simply because they mentioned him in an implicating manner with the killing in the dockyards? Broken cask of alcohol? Is it hard to devise a logical reason for a cask to be broken?—Ed.

TARZAN?—YES

Sirs:

Am I mistaken, or isn't your new cover artist, Juhre, the fellow who draws the daily comic, Tarzan? The little mechanical heart was a fine piece of art work. I didn't read the story involved, so don't know whether that head of bushy hair was necessary or not.

Rather a bloody issue, all in all—"The Whistling Death," "The Deadly Slime," and "World Without Death."

"The Whistling Death" was a carefully worked out piece of writing, and most enjoyable. Moravia, you know, is actually the twin of Bohemia in Czechia, but it seemed more like the country referred to was a new Soviet Union, possibly centering around the Ukraine? It led to interesting speculations. The artwork was superb. There was one weak point in the writing, though. The person telling the story was evidently supposed to have been in on the events somehow, but Porter wasn't supposed to confide in anyone, not even his secretary. The author seemed to have forgotten about his point of view as the story progressed. And how did the United States know that Porter had saved the country, if everyone who witnessed the occurrence died from the whistle? Yet they erected a monument to Porter.



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I rather like the character, the Radio Man, and there were several good points to the story, although the central plot was weak. More tales of the Radio Man, please; others will probably be better.

Speaking of Fantastic, I've finished "Adventure in Lemuria" now, and like the idea of a series about this character. However, let's have them more fantastic, perhaps introducing some of the superior science of the Lemurians, mentioned in "Riddles of Science."

John A. Bristol,
5134 Conduit Road,
Washington, D. C.

- Jes, Jubre did Tarzan for a while. About the monument. Wouldn't the whole situation be obvious to anyone coming to the scene after it was all over? The nature of the machine, the position of the bodies, the identity of those present, plus the partial knowledge of the teller of the story, leave little to the imagination.—Ed.

JACK DARROW—FAN NO. 1

Sirs:

The outstanding story, and my choice for the prize winnab in the June issue is Polton Cross's shyly written tale. But how can a necktie party take place in a "World Without Death"?

The following stories are not listed in any special order of merit. Protoplasmic monsters have gotten beyond control before, but in its manner of presentation "The Deadly Slime" is most original. Happy to see the return of the Radio Man and of Ralph Milne Farley.

After Fuqua's sharp covers, the fuzzy June cover did not appeal to me. A different scene could better have been portrayed. For instance, the landing of the space ship with the people scattering before it. Paul's back cover is a typical Paul. 'Nuff said.

You have been experimenting with color combination on the backbone. The present one, I think, shows up the best on the newsstands. White lettering on a red background with yellow and blue blocks.

Jack Darrow,
3847 N. Francisco Avenue,
Chicago, Illinois.

- Didn't the necktie party take place after the phenomenon that caused deathlessness had ceased?—Ed.

A SOUR TASTE?

Sirs:

In a few respects I can almost honestly say that this issue of AMAZING STORIES is one of the best, if not THE best, that you have ever put out. Possibly the magazine might improve a little more and become really worthy of its heritage.

It took me some time to figure out just what the cover was about. (It was all right, but it looks like any old love story magazine. What I mean is that I failed to see what it illustrated.) It was

finally explained to me by Brother Ackerman, as the illustration where they (the Saturnians) fix up the Milford gal. The funny thing is that this part occurred before the story even began. The actual composition, "World Without Death," was only average. The author slipped up on one very obvious point in his science. That of "... the difficulty of navigating the Asteroid belt ... and the rings of Saturn to get to the planet ...". Any individual who knows the first thing about Astronomy will know that you have only to rise above the plane a few degrees and that danger is removed.

"The Whistling Death" was one of the really good stories. The cuts, however, were very familiar. It seems that they are dragged out every issue or so, and given different names. Very unique. Makes you more familiar with the characters, I suppose.

"The Deadly Slime" was ordinary; seems to be a different version of a story recently published in this magazine, only last time it was an advancing hoard of Atomic fire.

"Lundstret's Invention" was a little (possibly even a big little) above the average. Thoroughly enjoyable.

The only story that I really didn't enjoy was "Microbes from Space." It wasn't what you would call a hack story from a "technical" angle, but I found it quite, one might say, stereotyped.

"Radio Man Returns" was only average, "Bride of the Damned" passable.

There are a couple of points I'd like to object to. It's O.K. to advertise *Fantastic* in the editorials, but I don't think that *Popular Photography* ought to be boosted in the editorial. In the mag it's O.K., as advertisements. The other is purely caustic. The reason why Mr. N. R. Jones can't be having "... much luck ..." with the AMAZING story policy" is probably because Mr. Jones' stories are not quite full enough of "actions and thrills" for the readers. Mr. Jones has always put out a damn good story. Maybe the AMAZING story policy needs a little rehashing.

Leaving you with a sour taste in YOUR mouth,
T. Bruce Yerke,
Hollywood, Calif.

- With all the praise in your letter, we don't have such a sour taste as you might imagine. Your objections are berehly overruled. First, the issue of *Popular Photography* we mentioned, was a really sensational issue, well worthy of being purchased by a science fiction fan, because it was the most valuable directory of photographic science ever assembled. Second, Mr. Jones does have action and thrills, and we feel sure that very soon now, he will be crashing our editorial gates, because they are wide open and waiting for the first yarn that hits the mark we've set up. You admit progress yourself, in the story quality. We must continue our standard in order to raise the quality still further, until we reach the peak of perfection we both desire. As for those illustrations, we don't get it. We never use the same cut twice. It may be that

you refer to the reduced cut used to dress up our forecast of coming issues.—Ed.

BACK COVER

Sirs:

Several years ago, as I think the editor will recall, I suggested that the AMAZING STORIES devote its front cover to a reproduction of the Jules Verne Memorial Portrait, with the idea in mind of obtaining a picture suitable for framing and hanging in the most dignified of surroundings. A number of fans entered enthusiastically into the idea, and the editors complied.

For you simply can't frame a magazine cover. Now this "back cover" stunt introduced by the new skippers is great. It brightens up the magazine immensely. At the same time, it might be devoted occasionally to something which has always been more or less of an impossibility. It might present the readers with artistic prints of science fiction, suitable and adaptable for framing.

I'll repeat—you simply can't frame a magazine cover. No matter how attractive the design of the cover may be, the flamboyant background of lettering, revealing such-and-such a magazine, the price, date of appearance, etc., prohibits any such a use of it.

But what if we can persuade our editor to print complete back-cover pictures—suitable for framing—and totally devoid of any lettering save that of the artist's signature?

Would you be proud of a collection of framed pictures, nice ones you can hang up, one by Paul, another by Morey, Marchioni, Wesso, Brown, Krupa, Finlay, and others we all know so well? The query is ridiculous. I know that you would.

I'm not suggesting mere action prints, but pictures with real artistic meanings. Portraits such as that of Jules Verne, the illustration of his immortality. Portraits perhaps that represent Man's conquest of space, his reaching out exploringly into the unknown.

Something beautiful and artistic done after the personal tonings of each individual and recognized artist.

It's something that hasn't been tried before. It's a new feature which I believe sincerely would be welcomed heartily by all science fiction devotees. I urge anyone who thinks similarly to communicate with the editor at once. I feel that in this manner we might be brought such exhibitions of art as have never been seen before.

If you agree with me, let's get together and ask for Science Fiction Pictures for Framing.

J. Harvey Haggard,
940 5th Street,
San Bernardino, Calif.

● Obviously Mr. Haggard has done yeoman work for his suggestion already, since this office has been receiving letters daily on the subject. Now in adopting these back covers, we did it for several reasons. First, to give the fans something they've always wanted, and to utilize a marvelous opportunity for adding a selling point to our magazine.

Such covers as these excite curiosity, and the reader wants to know what they are all about. He needs captions to tell him, and to inform him that inside the magazine is a complete description of the illustrated scene. Therefore, to present these back covers without explanation doesn't seem such a good idea.

We feel that even if framed, they require some sort of identification, the title and a short subhead to give them meaning.

Now, Mr. Haggard's campaign is fine, and he has quite a number of fellow-conspirators. But what about our other readers? Are they desirous of seeing back covers in this fashion? And how about changing from our interesting future features, to a symbolical painting? Deep questions indeed. We have a good thing in these back covers, and we know it. It is one of the many features that have placed AMAZING STORIES at the top of the science fiction world. The only way to change a good thing is for the better. And we've got to be sure it's better.

So there you are, Mr. Haggard, and all those fans who are working with him, I offer this problem to the readers, and assure you that if the response is indicative of a majority desire, we'll present covers such as you request.

As a fan, myself, I certainly like the idea of fine art paintings, on science fiction subjects, bearing in small type at the bottom in a very artistic way the title of the scene for identification alone, no more conspicuous than the artist's signature. How many more of you like the idea?—Ed.

TEN GOOD STORIES

Sirs:

There is nothing wrong with AMAZING STORIES except the most important thing in any magazine—the stories. You have been dolling up the magazine so nicely with special departments, back covers, etc., that the main contents have deteriorated almost to the sublevel that marked the mag before you took over from the previous publishers.

In the year since you took over, only ten good stories have been published. About five of these were very good. It is rather hard for a fan to say in so many words just what he expects of a science fiction story. What we like one year, we don't like the next year. The best way I can put it, is that we want a constant variety, but above all we want good writing. New plots, or novel twists of old ones, with the whole story well knitted together. Better still, here are the stories I liked in the last year, which will give you a better idea of what this fan wants, than any amount of explanation:

1. Battle in the Dawn.....Wellman
2. I, Robot.....Binder
3. Ghost of Mars.....Pragnell
4. Mr. Craddock's Amazing Experiment...Temple
5. The Strange Flight of Richard Clayton.....Bloch
6. Revolution of 1950.....Weinbaum

7. A Summons from Mars.....Fearn
 8. Time for Sale.....Farley
 9. The Gland Superman.....Repp
 10. Horror's Head.....Pease

Now don't get the idea that I'm panning the departments. They are fine and I want them all. But stories come first. How about bringing back Prof. Jameson and the Zoromes?

Other things: I don't cotton to the idea of a Morey cover, unless he is greatly improved. I don't think much of Juhr's work either. McCauley is the best artist you have. He and Fuqua should alternate on covers, with an occasional Paul.

"The Deadly Slime" takes first place by several lengths in the latest issue. Why doesn't Kummer write like that *all* the time? The unique method of defeating the most ancient bugaboo in science fiction, and the equally unique manner of presentation, deserve a lot of credit. Of course, I wouldn't want to see *every* story written that way, but it is a grateful change from the usual stuff. The rest of the stories were terrifically mediocre, and I only rated them as mere formality in order to help Kummer get that extra fifty bucks.

Arthur L. Widner, Jr.,
 Box 122,
 Bryantville, Mass.

● Your list of the ten best stories in the past year is certainly interesting. That is the sort of story our much-discussed "policy" calls for. Now, if only our writers will turn out material of the quality of this list, we'll find you listing every story we publish. And confidentially, we think our writers in future issues are going to show up even this list, for quality. We've got a nice lot of stories on hand to substantiate that claim.—Ed.

CORRESPONDENCE CORNER

Edwin Matthews, Belmont Rd. Sta., Downers Grove, Ill., has nearly all the issues of *AMAZING STORIES* from Feb. 1931, Vol. 5, No. 11 up to Aug. 1938, Vol. 12, No. 4. Matthews says they are in good condition and he invites readers to offer their bids. . . . Derek Eastmond, 21 Cobourg Street, Plymouth, Devon, England, is 16 years old and wants a pen-pal. . . . Franklin Earnhardt 625 East Bank St., Salisbury, N. C., has Science-Fiction magazines (1938-1939) which he wants to sell. . . . Blaine R. Dunmire, 414 Washington Ave., Charle-roi, Pa., has the following 8 volumes of Science-Fiction for sale: "By Air Express to Venus," "By Space Ship to Saturn," "Through Space to Mars," and "On a Torn-away World." These sell for 50c a volume. He also has a 400 page Jules Verne novel which goes for one dollar. . . . Rueben Bailey, 11 North Gate, Queens Drive, Barnsley, Yorkshire, England, is 17 years old and wants a pen-pal. (You two English boys ought to get together.—Ed). . . . Thomas Ward, 11 Pearl St.,

Harnell, N. Y., would like to correspond with boys over 16 living anywhere. . . . Jack Townsend, Box 604, Wilson, N. C., wants to buy copies of *AMAZING STORIES*, before Oct. 1938; copies of *ASTOUNDING STORIES*, before Aug. 1938; and copies of *THRILLING WONDER STORIES*, before Oct. 1938. Jack is 12 and wants a pen-pal. . . . Ephraim Konigsberg, P. O. Box 2372, Manila, Philippine Islands, wants to buy back copies of *AMAZING STORIES*. . . . Julius Unger, 1349 50th St., Brooklyn, N. Y., would like to hear from some Science-Fiction fans who would be interested in opening a book and magazine store dealing exclusively with Science-Fiction. He already has over 3,000 magazines and books with which to start the store. . . . John A. Heckson, 3 Rennie St., Redfern, Sydney, N. S., Australia, is interested in photography and America. He craves a pen-pal. . . . Max Belz, Waldoboro, Maine, has back numbers of *AMAZING STORIES* which he would like to sell. . . . W. K. Stead, 34 St. John's Park, Blackheath, London, S. E. 3, England, wants to know if there is a Science-Fiction club in England and also if there is any society which has space-travel as its objective. . . . Albert Mendelbaum, 1211 Juniata St. N. S. Pittsburgh, Pa., has the first *AMAZING STORIES ANNUAL* which he would like to sell. . . . Andrew Salmond, 251 Marfield Street, Carntyne, Glasgow, E. 2, England, would like boy or girl pen-pals of around 16 who are interested in mathematics, relativity, cryptography, astronomy, literature, atomic physics, Science-Fiction writing, and languages. . . . John Cunningham, 2050 Gilbert St., Beaumont, Texas, would like to hear from foreign readers of *AMAZING STORIES*. He guarantees to answer every letter. . . . J. J. Ryan, 6504 South Sacramento Ave., Chicago, Ill., would like to hear from readers in England and Australia. . . . John Strander, Route 11, Box 797, Seattle, Wash., is 15 and is interested in drawing science pictures and in hearing from anyone anywhere. . . . Leonard Panske, 2205 West Iowa St., Chicago, Ill., has the following issues of *AMAZING QUARTERLY*: Vol. 1, No. 1; Vol. 1, No. 3; Vol. 1, No. 4; and Vol. 2, No. 2 which he will sell for 65c each. . . . C. F. Hesselbach, 9 Gibson Place, Elizabeth, N. J., would like to contact readers who have Science-Fiction magazines from 1933-37. . . . Donald A. Wollheim, 801 West End Avenue, New York City, wishes to hear from Science-Fiction fans interested in socialism and Utopian writings. . . . Martin Cramer, 1315 East 10th St., Indianapolis, Ind., would like to correspond with fans. He is a coin collector and is interested in receiving rare Lincoln pennies in exchange for old copies of *AMAZING STORIES* dating back to 1926. . . . Edwin Sigler, 2109 Kentucky St., Lawrence, Kan., wants early daily and Sunday Buck Rogers newspaper cartoon strips. The owner should list the serial numbers of his issues. . . . Kenneth Nahan, P. O. Box 305, Westfield, N. J., wants pen-pals of 15 to 18, either boy or girl. He is interested in stamps, post cards, books, sports, science, writing and journalism, and almost everything. . . .

WIN A COVER PAINTING!

Beginning with this issue, *AMAZING STORIES* will give away, *absolutely free*, the original paintings of its front *and* back covers, to the winners of an easy contest, different each month. Not only that, we will give away the original drawings for the illustrations in each issue to the runners-up in the contest. You'll be amazed at how easy it is to win, and we know you'll all try every month for one of these coveted prizes.

Very often readers have asked us for original illustrations, but it wouldn't be fair to give them to individuals and leave the rest of our readers out in the cold. So we've hit on this means of giving all of our readers an equal chance to get originals of the work of the famous Julian S. Krupa, the well-liked Robert Fuqua, the old favorites, Frank R. Paul and Leo Morey, and others of our art staff whose illustrations receive so much comment and attention in *AMAZING STORIES*.

Each month we will present a different means of securing a painting or a drawing. Perhaps one month the prizes will be awarded to the best letters sent to Discussions. Another month it might be for the best title to a story. Again, for the best suggestion for a science fiction plot. Thus all of our readers will have an equal chance to get an original cover or drawing for their collection of science fiction.

This month, the subject of our easy contest will be "If I Were Editor." Here's your chance to tell the editor what you'd do to improve *AMAZING STORIES* still further, and win a painting or drawing for airing your opinions. Your letter need not be long. Concise, brief statements of opinion are all that are necessary. Prizes will be as follows:

FIRST PRIZE—The front cover of the August issue of *Amazing Stories*, or any other front cover from October, 1938, to July, 1939, inclusive.

SECOND PRIZE: The back cover of the August issue of *Amazing Stories*, or any other back cover from June, 1938, to July, 1939, inclusive.

THIRD TO FIFTEENTH PRIZES: Original interior illustrations from *Amazing Stories*, June, 1938, to August, 1939, inclusive. We will continue giving away back number illustrations until the supply is exhausted, whereupon only the illustrations to current issues will be awarded as prizes.

Get in on this easy contest and get a few of these excellent examples of science fiction illustrations. Address your contest letter to:

**ILLUSTRATION CONTEST EDITOR
AMAZING STORIES**

608 S. Dearborn Street, Chicago, Illinois

CITIES OF TOMORROW

Our back cover this month is artist Julian S. Krupa's conception of what the city of the future will be like. Fifty years from now this city will be a reality.

THE evolution of the city, from the first group of cave dwellings to the present day metropolis, is a story of steady progress. It has been a slow evolution and even in modern times, with the added impetus of great mechanical civilization, it has proceeded at a very regular and leisurely pace. With the building of the Woolworth tower, skyscrapers first came into the limelight as the most advanced point of city buildings. The evolution at that point was significant, in that it meant the erection of huge edifices, not for homes, as cities had always primarily been, but as places of business, in no way connected with shelter as it is applied to the home. Today's city can be a place wherein no family dwells, but reserved for business alone. In the future city, we might expect this trend to continue, and more than likely, it will. But it also seems likely, that with the improvement of the mechanical marvels being developed for the removal of smoke, purification of air, producing artificial climates inside huge buildings, that gradually the city building will become a place both for the family and for the business.

Industry will occupy the lower levels, business the middle levels, and the family, the top levels. There will be a class of people who prefer to live in the city, with all its artificial comforts, and there will be the class of people who will renounce the city entirely as a place of abode.

It is certain that buildings will become huge. They will be giant cities within cities, each building containing all the elements of a separate community within itself. It will not be necessary for the person who lives in the air-conditioned, artificially climatized upper level, to leave his own building to procure all the necessities of his life. He will be served by a bee-hive community fed by the workers of the underground levels, served by an immense network of transportation feed-lines from all parts of the country.

Transportation itself will bring the road right up into the buildings they serve. The person who commutes to the city to perform his work, will arrive on an aerial highway far above the streets, reserved for pedestrians. He will park his car in the same building, perhaps never reaching the ground level until he returns to his far-away home in the evening. If he does not drive his own car, he will travel on swift trains serving main building centers, and will utilize helicopter planes instead of the taxi of today to get to his own particular place of business.

Airports atop huge buildings will provide transportation to all parts of the world. Private flying will be as prevalent as commercial, and the highways of the future city will be crowded by private planes, perhaps restricted as to area of approach and to specialized lanes, to avoid accidents. Underground will be the freight levels of transportation. Swift trains, fleets of giant busses and trucks, and even pneumatic tube-ways, bearing both freight and passengers from building to building.

The future city will not be the smoky, unhealthy city of today. No longer will the city dweller need to go to the country to get a breath of fresh air in his lungs. The air in the city will be as pure, or even purer, than that in the rural areas.

Invisible rays will eliminate germs; inaudible sound waves will precipitate dust and smoke. New types of motors will eliminate fumes of combustion type engines.

All buildings will be completely air-conditioned, and temperature-regulated. Lighting will be indirect, and walls will be of glass, admitting soft, pleasing daylight at all times. There will be no contact with the outside world, its roar or clatter, and noise will not enter the quiet office or insulated home.

Accidents will be cut to a minimum, due to equal distribution of traffic, one-way travel on all roads, and perfect traffic control, handled automatically by electric-eye controls. All cars will be equipped with controls which function according to traffic signals received from the robot traffic directors. An operator, entering the city, would switch on his automatic controls, and in event of danger the halting, or speeding up of the car would not depend on his own senses and judgment, but upon infallible electric eyes, operating in split seconds.

In the past, greatness in cities depended to a great degree on geographical location, and a good harbor, navigable waterways, and other natural factors played a great part in the history of the city's progress. But not so the city of the future. Man will no longer depend on harbors and waterways, and natural resource proximity to furnish his city with the necessities of its existence. He will have mechanical ability great enough to overcome natural obstacles. Space, distance, transportation, and time element will be a minor factor. Cities can be built anywhere, and climate will not be an obstacle to greatness. The science of man has brought his city to the threshold of a new greatness.

QUIZ ANSWERS

(Quiz on page 128)

DO YOU KNOW:

1. Metallic potassium and metallic sodium.
2. 8 inches per mile.
3. More than 1000 have been classified and listed.
4. It is reckoned as equal to a 100 candle power lamp at 22 yards.
5. The Bureau of Standards says it can.
6. By using other atoms as projectiles.
7. Water is the greatest solvent.
8. The weight varies, running from 5.66 to 6.24 per gallon.
9. Denatured alcohol will dissolve celluloid.
10. Approximately 230,000 miles.

SCRAMBLED SCIENCE TERMS

1. ILLINIUM.
2. MAGNESIA.
3. OSMIUM.
4. DONATT'S.
5. PARSEC.

SELECTION TEST

1. Pyrophobe.
2. Arkansas.
3. Saurolite.
4. Aluminum.
5. Hydrogen.
6. Edison.
7. Heliofobe.
8. Caustic potash.
9. Berzelius.
10. 87%.
11. Milk.
12. Black ironwood.
13. Speaking.
14. 400 thermal units.
15. 1896.

TRUE OR FALSE?

1. True.
2. True.
3. False.
4. False.
5. True.
6. True.
7. False.
8. True.
9. True.

PROBLEM

The error in reasoning enters in deducting the three dollars paid back to the three men from the total, instead of adding it to the balance of \$25.00, which makes \$28.00, leaving only the \$2.00 pocketed by the bellhop. Therefore, there is no missing thirtieth dollar.

HIGHWAYS ARE BECOMING AIRWAYS!

THE drone of an airplane motor no longer causes the man on the ground to look up and stare. He takes the plane as matter of fact as the passing street. Sometimes the heavy roar of the newest giant of the airways draws his attention, hut only in admiration, and with the growing conviction that this is the way to get where he wants to go.

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2. **INTRIGUE IN LEMURIA** by *Frederick Arnold Kummer, Jr.*

Kirk, the Wanderer, finds the land of Lemuria a land of grim danger, and high adventure. A fantasy of an ancient continent of mystery and terror, and the weird science of an ancient sorcerer.

3. **THE MONSTER FROM NOWHERE** . . . by *Nelson S. Bond*

Incredible, unbelievable, was this weird monster from another dimension. Trapped on the Maratan Plateau, it was brought to New York, helpless. But then . . . a ghostly terror was loosed.

4. **THE GOLDEN AMAZON** . . . by *Thornton Ayre*

An outlaw of space, she was, with the strength of ten men. Here is an interplanetary story that will fill you with enthusiasm. She whipped the man she loved . . . then rescued him from death.

5. **INVADERS FROM SIRIUS** . . . by *Ed Earl Repp*

A daring attempt to steal the earth. A tale of super science and grim invaders from a far distant world, and of the pitiful struggle of a handful of desperate earthmen against overwhelming odds.

6. **SHE WALKED ALONE** . . . by *John Russell Fearn*

A black cloud of menace hung over Elaine Dodd and she hated the moon. Why? What great danger was there in facing its light? Douglas Ward loved her and married her, but even from her husband she kept the secret of what she feared.

...and SEVEN!

The **SECOND BIG ISSUE** of the newest sensation magazine in the science fiction field is selling fast! If you don't want to find yourself unable to get a copy, you'd better visit your newsstand **TODAY—NOW**—while copies are still available.

**TAKE A TIP FROM
US—ACT FAST!**



MONTHLY MERIT AWARD

OUR congratulations to Mr. Polton Cross, who wins AMAZING STORIES' \$50.00 prize for the best story in the June issue. With the help of his fans, who voted right smartly for their favorite writer and the best-liked story in the issue, he collected 1,818 votes out of a possible 2,394, to lead his nearest rival, the always-good Abner J. Gelula, whose return to science fiction was hailed with great delight, by nearly 300 votes. The complete tabulation follows: (first number is votes polled, and second is rating on percentage basis, assuming 100% to be perfect).

<i>Title</i>	<i>Author</i>	<i>Votes</i>	<i>Rating</i>
1. World Without Death.....	Polton Cross.....	1,818	.76
2. The Whistling Death.....	Abner J. Gelula.....	1,539	.60
3. Lundstret's Invention.....	Robert Moore Williams.....	1,242	.52
4. The Deadly Slime.....	Frederic Arnold Kummer, Jr. .	1,239	.52
5. Brigade of the Damned...	Ed Earl Repp.....	1,237	.52
6. The Radio Man Returns..	Ralph Milne Farley.....	1,098	.46
7. Microbes From Space.....	Thornton Ayre.....	1,053	.44

Due to the close voting, in which third place in percentage rating went to three authors, the average of 76% of Polton Cross was made against stiff competition. Also, the lowest rating jumped another 3% over last month, indicating greater difference of opinion among the readers.

And now, the special news for this month. Starting with the current issue, we will award a prize of \$10.00 to the voter also! To the reader whose lineup most nearly parallels that of the composite final result, and who writes the best letter of 20 words or more, on why he or she selected the first place story for that position, we will award a separate prize of \$10.00. Here's your chance to win for yourself as well as your favorite author. Get in on the voting, and help push science fiction.

Once again we point out that these coupons are not backed by a story, or an article, so that they can be clipped without removing anything of value from your copy of **AMAZING STORIES**. However, if you desire, a facsimile or neatly written form, employing the same order of stories will be equally eligible for consideration.

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AMAZING STORIES
608 S. Dearborn Street
Chicago, Illinois

In my opinion the stories in the August issue of **AMAZING STORIES** rank as follows: No. Here

WARRIORS OF MARS, by Arthur R. Tofte.....
 WORLD BENEATH ICE, by Polton Cross.....
 THE MAN WHO WALKED THROUGH MIRRORS, by Robert Bloch.....
 WIVES IN DUPLICATE, by Don Wilcox.....
 MYSTERY OF THE COLLAPSING SKYSCRAPERS, by Earl Vincent.....
 JOHN HALE'S HOLLYWOOD MYSTERY, by Ed Earl Repp.....

Name

Address

City State.....

Attached is my letter of 20 words or more on my reason for picking story number one for the \$50.00 award. ☐ Check here

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City _____ State _____

Cities of Tomorrow

The city of tomorrow, engineers say, will tend first to vastness; gigantic buildings connected by wide, suspended roadways on which traffic will speed at unheard of rates. This is the city the artist has pictured here. Traffic handled in huge underground tunnels, aerial ways, and in the air itself. Helicopter planes, capable of maneuvering about between buildings and roof-top airports, will take the place of the ground taxi. Each building will be virtually a city in itself, completely self-sustaining, receiving its supplies from great merchandise ways far below the ground. Dwellers and workers in these buildings may go weeks without setting foot on the ground, or the ground-level. In this city smoke will be eliminated, noise will be conquered, and impurity will be eliminated from the air. Many persons will live in the healthy atmosphere of the building tops, while others will commute to far distant residential towns, or country homes.

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